Blue Mountains Forest Plan Revision
DRAFT Chapter 1: The Vision

Version 2: October 5, 2005

Chapter 1: Vision

Introduction

The first step in the forest plan revision process is to create a *Vision* that reflects the values of the people who care about the forests. This part of the document will provide the context for managing the Malheur, Umatilla, and Wallowa-Whitman National Forests. It describes a vision for the future. It describes the niche that these public lands provide to local communities; the tribes; the states of Oregon, Washington, and Idaho; the region; and the nation and the forests' uniqueness on a national and regional level.

The *Vision* will be composed of "desired condition statements" for the social, ecological, and economic features of the three forests. These statements will describe the desired condition of the landscape and disturbance processes and the acceptable limits of the system as well as the benefits and experiences that these lands can supply. It will describe how the challenges framed by existing laws and the biological and physical limits will be addressed as well as the roles and contributions that the forests make, the desired conditions for the various landscapes within the forests, and finally, the evaluation/monitoring indicators that will be used to assess the progress made toward accomplishing the desired conditions.

This is a Version 2 of the *DRAFT Vision and Desired Conditions* for the Blue Mountains national forests. The first version of the desired conditions was developed from public comments gathered at the first round of Collaborative Community Workshops in May 2004. Version 1 was shared with the public and discussed during the second round of Collaborative Community Workshops held across the Blue Mountains in October 2004. Participants were asked to provide feedback and changes to the proposed desired conditions through January 2005.

The Blue Mountains Forest Plan Revision Team reviewed all comments and worksheets and worked with forest resource specialists and others to develop Version 2 of the *DRAFT Vision and Desired Conditions* which was an internal working copy. This version is now being distributed for further public review and comment. Readers should note that this version contains sections and tables that are not yet complete, blank, or not yet written. Compilation of a bibliography is still in progress and reference citations are available upon request.

The final version of Chapter 1 will include:

- **Niche:** The vision document begins with a description of the forest, including its distinctive roles and contributions to the local area, state, region, and nation. Through the course of public collaboration the niche for national forest lands has been identified.

- **Management Challenges:** *This section has not been written yet.*

- **Strategic Goals:** In 1993, Congress passed the *Government Performance and Results Act* (GPRA to increase the accountability of federal agencies by measuring progress toward achieving agency goals and objectives. This legislation requires preparing periodic strategic plans. In 2004, the Forest Service (USFS 2004) issued an updated version of the Strategic Plan for the agency. These long-term goals and objectives help guide the Forest Service's current actions and future plans.

- **Desired Conditions:** The desired conditions describe the ecological, economic, and social attributes that characterize or exemplify the outcome of land management. In short, this means how the forests are expected to look and function in the future when forest plan direction has been successfully implemented. Desired conditions can be measured now and over time through monitoring. Each forest's desired condition contributes to the achievement of the agency's strategic goals. Desired conditions are not commitments and may be achievable only over the long term.

- **Related Monitoring Measures:** *This section has not been written yet.*

Forest Niche

General Location

The Blue Mountains national forests total approximately 5.3 million acres. They are administered through three Forest Supervisors' offices located in John Day, Pendleton, and Baker City, Oregon; and 15 field offices.

The Blue Mountains Province is located in the Pacific Northwest Region of the Forest Service, primarily in northeastern Oregon and small portions of southwestern Washington and west-central Idaho. This diverse physiographic area borders the Snake River plain on the east, extends south into the Great Basin, west to the Columbia River plateau, and borders the Palouse prairie to the north. The majority of acreage is in Oregon (4.8 million acres) with about 136,000 acres in Idaho, and about 311,000 acres in Washington.

National Forest Descriptions

The Malheur National Forest comprises 1.4 million acres in the southern Blue Mountains with forest headquarters in John Day, Oregon and district offices in Prairie City, John Day, and Burns, Oregon. The Malheur National Forest also manages a 240,000-acre portion of the adjacent Ochoco National Forest; which will be included in the Blue Mountains Forest Plan Revision. The Malheur National Forest encompasses the headwaters of the Silvies, Malheur, and John Day Rivers which provide clean cold water for fish, wildlife, recreation, and agricultural needs. Elevations vary from about 4,000 feet to the 9,038-foot top of Strawberry Mountain.

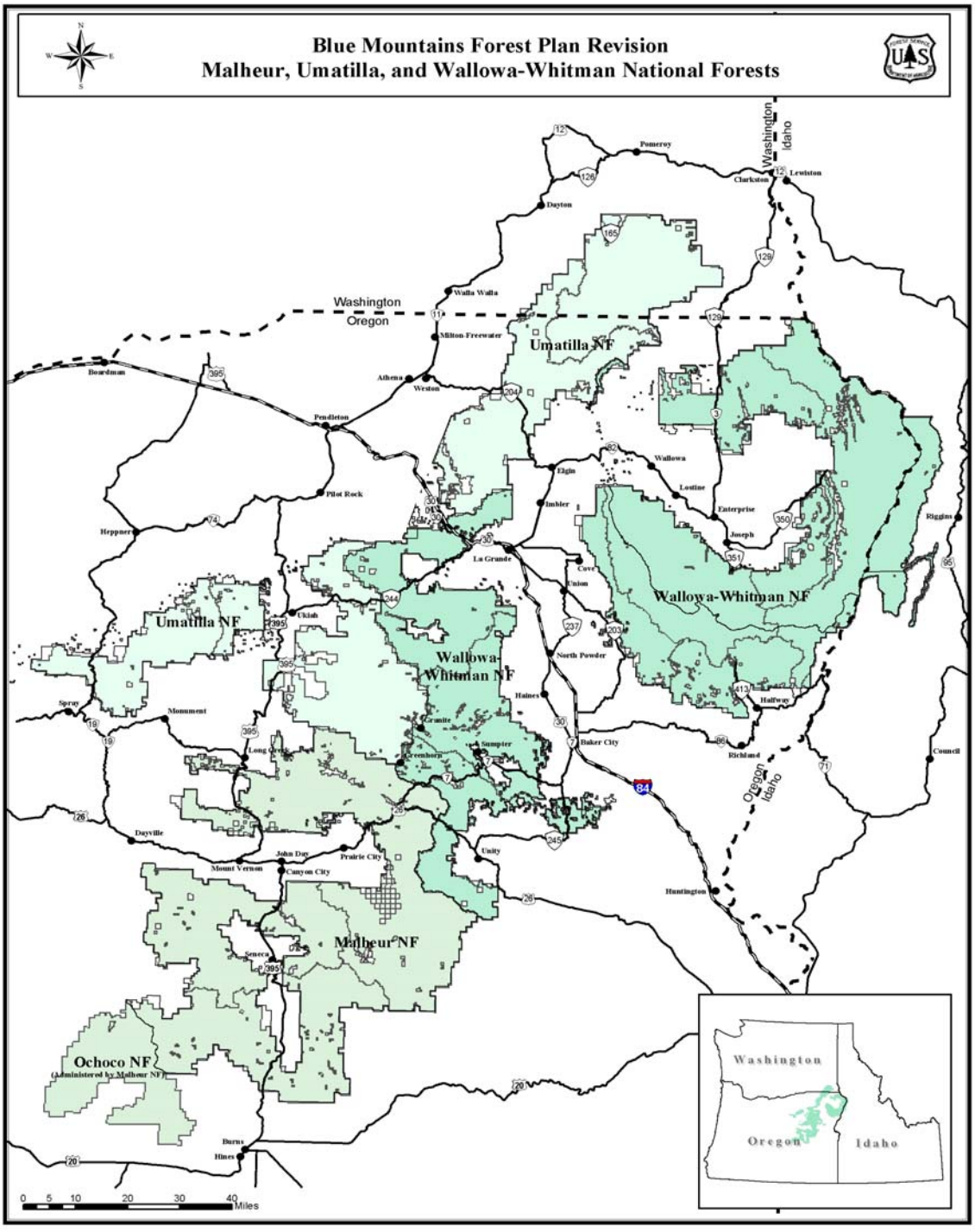
The 1.4-million-acre Umatilla is the northern-most national forest in the planning area and is administered from Pendleton, Oregon with district offices located in Pomeroy and Walla Walla, Washington and Heppner and Ukiah, Oregon. Three wilderness areas, the Wenaha-Tucannon, the North Fork Umatilla, and the North Fork John Day comprise over 20 percent of the forest.

Located on the eastern edge of the Blue Mountains, the Wallowa-Whitman National Forest is over 2.3 million acres and encompasses the Elkhorn and Wallowa Mountains as well as the Hells Canyon National Recreation Area (HCNRA) where the Snake River cuts the deepest river gorge in North America. Originally two national forests, the Wallowa and Whitman National Forests have been managed together since 1954 from Baker City, Oregon. The southern Whitman Unit, also based in Baker City is named in honor of Dr. Marcus Whitman who was one of the first travelers along the Oregon Trail. The Whitman Unit is comprised of the Baker, Unity, and Pine Ranger Districts. The northern portion of the forest has district offices in La Grande and Enterprise, Oregon. In addition to the office in Enterprise, the HCNRA also has offices in Clarkson, Washington; Riggins, Idaho; and Oxbow, Oregon.

Forest Role and Contributions

This section has not been written yet.

Figure 1: Vicinity Map



Management Challenges

This section has not been written yet.

Strategic Goals

The USDA Forest Service Strategic Plan for Fiscal Years 2004-2008 (USDA 2004) was prepared to provide the context and purpose for agency actions under the *Government Performance and Results Act*. The strategic plan is intended to be the keystone of the Forest Service management and establishes goals, outcomes, performance measures, and strategies, which apply to management of the national forest lands as well as other Forest Service mission areas. The Strategic Plan covers periods of not less than five years forward from the fiscal year in which it is submitted, and is updated and revised at least every three years. It articulates the Forest Service Mission to "sustain the health, diversity, and productivity of the nation's forests and grasslands to meet the needs of present and future generations". Land management plans further refine these goals by developing desired condition statements and forest-specific objectives. The land management plan identifies the role each forest plays in supporting these national goals:

Goal 1: Reduce the risk from catastrophic wildland fire.

Goal 2: Reduce the impacts from invasive species.

Goal 3: Provide outdoor recreation opportunities.

Goal 4: Help meet energy resource needs.

Goal 5: Improve watershed condition.

Goal 6: Mission related work in addition to that which supports the agency goals.

Desired Conditions

The following section helps paint a picture of what national forest resource conditions are expected to look like as management activities are implemented over the life of the Revised Forest Plan. These desired conditions are statements of how the national forests of the Blue Mountains can support progress toward the goals of the National Strategic Plan as well as those goals that are unique to the Blue Mountains.

PRINCIPAL 1:
Social Well-Being

Social well-being is the degree to which the environment contributes to healthy, safe, and quality lifestyles for individuals, communities and the nation. Well-being is dependent on the context of the situation such as demography, culture, social relations, and political setting.

CRITERIA 1.1 – Collaborative Stewardship

Are the national forests of the Blue Mountains working with diverse people to achieve the desired conditions?

DEFINITION: Collaboration is the process of people working together to solve problems and achieve common goals. Stewardship is the philosophy and practice, the art and the science of responsibly using, conserving, and caring for the environment.

DESIRED CONDITIONS: Working together develops and strengthens communication, openness and partnerships. Collaborating contributes to the achievement of the vision and desired conditions.

INDICATOR 1.1.1 - Participating and Engaging

Are opportunities for participating and engaging in planning processes fair and open to everyone?

DEFINITION: Participating and engaging refers to how much, how often, and at what level people participate and engage in the collaborative process.

DESIRED CONDITIONS: Participation is fair, open, and accessible to everyone. Diverse values are recognized and respected. Participation enhances existing relationships and creates new partnerships. People demonstrate determination and commitment to building understanding and trust by involving themselves in the process to achieve sustainable resource management.

MEASURES:

1. Assessment of agency and public collaboration capacity including social networks, attitudes, skills, time, and funding.
   - **DATA:** Informal assessments at tri-forest leadership team meetings, public affairs meetings, Resource Advisory Council (RAC) meetings, community meetings, or other opportunities.
   - **SCALE:** Community; administrative unit (national forest/ranger district/BLM district.
   - **DATA:** Formal semi-structured, one-on-one interviews or focus group discussions with sample of participants, key stakeholders, and non-participants in various projects.
   - **SCALE:** Administrative unit (national forest/ranger district/BLM district).
2. Participant feedback.
   - **DATA:** Solicit participant feedback by developing consistent evaluation forms and design of group reflection processes in public workshops and meetings.
   - **SCALE:** Community; administrative unit (national forest/ranger district/BLM district).

INDICATOR 1.1.2 - Decision-making

Are the national forests of the Blue Mountains making credible and supported decisions?

DEFINITION: Implementing forest plans involves numerous decisions made by the designated responsible official within the framework of laws and policies that define the decision space. Through the planning process, the decision maker works together with the public to determine the best course of action space to meet the desired conditions.

DESIRED CONDITIONS: Decision-making, framed by compliance with law and policy, is broadly supported. Decisions are credible and transparent.

MEASURES: (See also measures for indicators: 1.1.1 Participating and Engaging and 1.4.8 Attitudes, Beliefs, and Values).

1. Implementation success rate.
   DATA: Number of projects implemented without appeal or litigation.
   SCALE: Administrative unit (national forest/ranger district/BLM district).

INDICATOR 1.1.3 – Learning and Adapting

Are the decisions on the national forests of the Blue Mountains adaptive based on learning and new information?

DEFINITION: Foster learning and exchange of information and ideas is necessary to adapt to changes.

DESIRED CONDITIONS: Cultural and scientific knowledge and experience is incorporated into project planning and implemented through community-based groups and partnerships, proactively addressing resource management issues. Current scientific information and understanding is combined with new knowledge and collaborative monitoring to promote learning and adaptive management. Creative and flexible solutions are developed.

MEASURES: (See also measures for indicator 1.1.1 Participating and Engaging).

1. Provision of forums for sharing lessons learned from implementation and monitoring, acknowledging successes, and incorporating these into other projects.
   DATA: Number of workshops, events, or training hosted by interagency leaders, collaborators, partners, or other entities; number of successes or lessons learned incorporated into projects.
   SCALE: Administrative unit (national forest/ranger district/BLM district).
2. Post-project reviews.
   DATA: Regional reviews, field trips, reviews.
   SCALE: Administrative unit (national forest/ranger district/BLM district).

CRITERIA 1.2 – Capacity and Efficacy

Are the national forests of the Blue Mountains capable and effective in adapting to and influencing change?

DEFINITION: Capacity and effectiveness is the extent to which institutions (agencies, governments, and organizations) and communities can mobilize members, respond to change, and use resources appropriately to produce social, ecological, and economic goods and services to achieve desired goals.

DESIRED CONDITIONS: The national forests actively work with other agencies, tribes, organizations, groups, and communities to support formal and informal processes that collectively help people adapt to and influence changes in conditions related to the Blue Mountains. Planning processes are coordinated and integrated across geographic, political, and administrative boundaries to achieve multiple goals in the most cost-effective manner.

INDICATOR 1.2.1 – Community Resiliency

What are the linkages between the national forests and the communities of the Blue Mountains and how and where is this changing?

DEFINITION: Community resiliency is the capacity of a community to adapt to changing conditions. Communities with high social and economic resiliency are those that are adaptable to change.

DESIRED CONDITIONS: The national forests of the Blue Mountains contribute to resilient rural and tribal communities by providing sustainable goods and services while protecting the ecological integrity of

ecosystems. Communities contribute to their own resiliency by fostering sustainable land stewardship. Local communities have the capacity to collectively create and take advantage of opportunities to meet the needs of diverse perspectives. Policies and relationships recognize the uniqueness of communities in terms of their human, social, and economic assets.

MEASURES: (See also measures for indicators: 3.1.3 Human Capital, 3.3.1 Trade Balance, and 3.3.3 Employment and Income).

1. Community assessments.
   DATA: Community-hosted focus group discussions to "tell the story" of changes and adaptations. Assess and discuss physical, human, and social capital (infrastructure, community economics, skills, lifestyle, and livability). Use county and community-level input-output models under development to assist discussion of economics to determine assets and needs. Use community workshops or other type of group process.
   SCALE: County.
2. Selected social and economic demographics trends.
   DATA: Assess and analyze trends in secondary data such as housing tenure, poverty, education, unemployment, children in homes with public assistance, population, race and ethnicity, or per capita income, availability of services, crime rates, and migration patterns (Kusel 1997). Use in conjunction with developing the "story" from Measure 1 for community-hosted focus groups.
   SCALE: County; Blue Mountains; John Day Basin.
3. Socioeconomic resiliency or diversity index trends.
   DATA: Assess and analyze trends in derived indexes over time. Use in conjunction with narratives and trends from Measures 1 and 2.
   SCALE: County; Blue Mountains; John Day Basin.

INDICATOR 1.2.2 – Accountability and Flexibility

How accountable and flexible are the national forests of the Blue Mountains in accomplishing work?

DEFINITION: The extent to which laws, regulations, and practices support or influence achieving the desired conditions for sustainability.

DESIRED CONDITIONS: The national forests of the Blue Mountains actively work across jurisdictional boundaries and multiple-scales to integrate agency functions and programs and respond to the changing needs of ecosystem management. Formal agency processes are enhanced through responsive communication and information networking to solve problems. Management activities are measurable, enforceable, and cost effective. Cooperative management and monitoring opportunities provide public accountability and flexibility to promote effective and efficient use of resources.

MEASURES:

1. Timeliness and efficiency of planning, regulatory, or permit processes.
   DATA: Average time (months/years) utilized from project conception to implementation.
   SCALE: Administrative unit (national forest/BLM district).
2. Accomplishment reporting.
   DATA: Performance-based budgeting information, memorandums of understanding, memorandums of agreement, service first agreements.
   SCALE: Administrative unit (national forest/BLM district).
3. Program implementation effectiveness.
   DATA: allocation and trade-offs of costs and benefits of programs.
   SCALE:

INDICATOR 1.2.3 – Land Ownership

Are the land ownership patterns efficient to manage? Do landownership patterns contribute to sustainability? *(This section has not been written yet).*

INDICATOR 1.2.4 – Trust Responsibilities

Are the national forests of the Blue Mountains meeting their shared responsibilities with American Indian tribes?

DEFINITION: The Forest Service shares the federal government's overall trust responsibility to American Indian tribes where treaty or other legally defined rights apply to national forest lands in the Blue Mountains.

DESIRED CONDITIONS: Consultation, collaboration, and communication between the national forests and tribes occur prior to planning of activities and throughout the development of project proposals. Treaty-ceded areas are protected and managed in a manner that promotes sustainability of the ecosystems and availability for tribal members to exercise their unique treaty rights. The treaty rights, interests, and concerns of tribes are respected and integrated into the planning process.

MEASURES:

1. Protocols for government-to-government relationships are established, followed, and productive.
   DATA: Assessment of formal and informal communication efforts between elected tribal government officials and the forest supervisors, staff-to-staff relationships, and working agreements.
   SCALE: Individual tribes.

CRITERIA 1.3 – Social Equity

Are benefits and costs equitably shared?

DEFINITION: Social equity is "the fair distribution of the benefits and costs of natural resource use and environmental protection, taking account of such basic human needs as food, shelter, employment, public facilities and services" (Maclaren 1996).

DESIRED CONDITIONS: The benefits and costs from the national forests of the Blue Mountains are shared across a broad spectrum of interests. All individuals and groups are treated fairly, appropriately informed, and assisted in enhancing their awareness of the management activities based on the diversity of the public.

INDICATOR 1.3.1 – Justice and Rights

Are individuals and groups treated fairly and share proportionate benefits and costs?

DEFINITION: Justice refers to the fair treatment and meaningful involvement of all people regardless of race, color, national origin, or income with respect to the development, implementation, and enforcement of environmental laws, regulations, and policies. Rights refer to the specific civil rights guaranteed to U.S. citizens in the Constitution: freedom of religion, of speech, and of the press; rights to due process of law and to equal protection under the law; and freedom from discrimination.

DESIRED CONDITIONS: People are treated fairly, without discrimination, and are meaningfully involved in activities that affect them with respect to the development, implementation, and enforcement of applicable laws, regulations, and policies.

MEASURES:

1. Civil rights violations
   DATA: Number or type of violations, actions, and complaints
   SCALE: Administrative unit (national forest/BLM district)
2. Environmental justice issues
   DATA: Number of issues identified, actions as result of analysis, and complaints
   SCALE: Administrative unit (national forest/BLM district)

INDICATOR 1.3.2 – Public Health and Safety

Are the national forests of the Blue Mountains healthy and safe to recreate, work, or live in or near?

DEFINITION: Public health and safety refers to conditions necessary for forest visitors, workers, users, residents, landowners, or adjacent communities within the Blue Mountain to enjoy a healthy and safe environment.

DESIRED CONDITIONS: Individuals and communities enjoy a healthy and safe environment within and near the national forests of the Blue Mountains. They are fairly informed and assisted in understanding the benefits and protecting themselves from the risks to their health, safety, and property from recreating, working, occupying or owning property on or adjacent to the national forests.

MEASURES: (See also measures for indicator 3.1.2 Built Capital (Facilities and Infrastructure).

1. Worker and visitor health and safety incidents.
   DATA: Number, severity, and type from existing assessment and evaluation processes.
   SCALE: Administrative unit (national forest/BLM district); Blue Mountains; John Day Basin.
2. Percentage of areas in wildland/urban interface in fire condition classes 1-3.
   DATA: Information from community fire plans and reports.
   SCALE: Administrative unit (national forest/BLM district); Blue Mountains; John Day Basin
3. Percentage of facilities that meet or exceed clean drinking and waste water standards
   DATA: Information from existing assessment and evaluation processes
   SCALE: Administrative unit (national forest/BLM district); Blue Mountains; John Day Basin

CRITERIA 1.4 - Social and Cultural Values

What do people care about and value in their relationship with the national forests of the Blue Mountains, and how are management actions affecting these relationships?

DEFINITION: Social and cultural values provide an understanding of people's preferences, activities, use patterns, social and cultural history, attitudes, beliefs, and values associated with the Blue Mountains.

DESIRED CONDITIONS: The national forests of the Blue Mountains respect and recognize the diverse cultures, customs, traditions, practices, perspectives and lifestyles that have shaped the sense of identity inherent within the people that live in the local communities or visit the area. Places that provide for human uses or relationships with the land such as emotional and spiritual connections are recognized.

INDICATOR 1.4.1 – Hunting, Fishing, and Gathering

Can forest products be hunted and gathered on the national forests?

DEFINITION: *Hunting* activities on national forest lands include big game, small game, and migratory bird hunting as regulated by the state agencies. *Fishing*, as a general category, includes warm and cold freshwater species, anadromous species and catch and release fishing as regulated by the state agencies on streams lakes and reservoirs across the Blue Mountains forests. *Gathering* includes removal of forest products such as berries, mushrooms, fuelwood, poles, and other plant materials.

DESIRED CONDITIONS: Although the specific resources available for hunting, fishing and gathering vary across the landscape, the Blue Mountains national forests provide a mix of opportunities that are an important part of both local lifestyles and traditional visitor activities. Across the Blue Mountains habitat conditions are maintained for destination hunting and fishing opportunities in cooperation with state agencies.

MEASURES:

1. Number of persons participating in state regulated activities such as hunting and fishing.
   DATA: Number and type of hunter and angler participation by unit, harvest success information
   SCALE: Forest-wide.

2. Goals and management objectives for species-specific management plans (tied to state management needs).
   DATA:
   SCALE: Forest-wide.
3. Number of persons participating in forest-regulated and permitted activities.
   DATA: Volume of fuelwood and permitted forest products removed.
   SCALE: Forest-wide.

INDICATOR 1.4.2 – Scenery

The way the landscape looks is important.

DEFINITION: *Scenery management* involves administering the use of national forest lands within the context of multiple-use ecosystem management to ensure high quality scenery for the overall well-being and welfare of society and future generations. It is the art and science of planning and designing landscape attributes relative to the appearance of places and expanses in outdoor settings.

Scenic integrity is the state of naturalness or a measure of the degree to which a landscape is visually perceived to be "complete". The highest scenic integrity ratings are given to those landscapes that have little or no deviation from the landscape character valued by constituents for its aesthetic quality.

Landscape character provides a frame of reference from which to determine scenic attractiveness and to measure scenic integrity. The character is a combination of physical, biological, and cultural images that give an area its visual and cultural identity and help define a sense of place.

DESIRED CONDITIONS: The natural and man-made features of landscapes that provide scenic integrity are intact. Landscape character goals and scenic integrity objectives are integrated with other resource, cultural, and administrative needs. Constructed features and landscape alterations complement landscape characteristics. Utilities, range management activities, winter sports developments, recreation sites and facilities, and roads are designed and constructed with minimum adverse impacts to scenery.

Specific areas across the Blue Mountains national forests have management strategies with site-specific scenic integrity objectives such as designated Wilderness Areas, Wild and Scenic Rivers, Scenic Byways, and Hells Canyon National Recreation Area.

MEASURES:

1. Number of projects that conform to scenic integrity objectives.
   DATA: Acres of project area moving towards scenic integrity objectives or specific constructed features in compliance.
   SCALE: Forest-wide.

INDICATOR 1.4.3 – Interpretation and Conservation Education

Opportunities to learn more about the national forests.

DEFINITION: Interpretive services, activities, and programs are designed to develop a forest visitor's interest, enjoyment, and understanding of the natural environment and the mission of the Forest Service in managing public lands.

DESIRED CONDITIONS: Interpretation and conservation education programs are accurate and based on current scholarship and research data. Programs convey clear messages and are organized around explicitly defined themes. The activities convey management goals and support the Forest Service mission. Visitor expectations are met and activities relate to site-specific resources and issues. Americans with Disabilities Act accessibility guidelines are met and a variety of learning styles and needs are accommodated as appropriate. Safety messages are consistently included in interpretive programs and safety measures are taken for visitors participating in interpretation and education activities.

MEASURES:

1. Number of facilities and programs administered to National Quality Standards for Interpretive Services.
   DATA:
   SCALE:
2. Number of opportunities to participate in interpretive, or educational activities.
   DATA: Reports based on accomplishment reporting for Measures 1 & 2 as part of the recreation program.
   SCALE:
3. Number of people who participate in interpretive or educational activities.
   DATA:
   SCALE:
4. Visitor satisfaction with interpretive services and conservation education programs.
   DATA: Reports based on National Visitor Use Monitoring (NVUM) surveys or informal surveys of site-specific visitor satisfaction and actual use information.
   SCALE: Forest-wide or site-specific visitor surveys.

INDICATOR 1.4.4 - Heritage Resources

Are important historic and pre-historic places and objects being properly taken care of?

DEFINITION: *Heritage resources* include buildings, sites, areas, architecture, memorials, and objects having scientific, historic, or social values.

DESIRED CONDITIONS: The significant tangible features of sites or locations and other cultural/historic aspects that people value across the Blue Mountains are maintained by ensuring that the sites and resources are maintained. Vandalism and looting of heritage resources is reduced and priority sites are identified and stabilized to protect significant values. Heritage resources are integrated into land and resource management and tribal relationships are based on trust to facilitate resolution of heritage issues.

Heritage resources are integrated into multiple use management of the national forests, by including socio-cultural values in an environmental context. Scientific study of the heritage resources is done to gain knowledge about past human behavior. As appropriate, the resources or sites are opportunities for interpretation and education so that the public may gain a better understanding and perspective of our heritage.

MEASURES:

1. Sites managed to meet current national guidance and professional standards as agreed to by State and Tribal Historic and Preservation Offices (SHPO and THPO) or through other local agreements.
   DATA:
   SCALE:
2. Eligible heritage properties are nominated to the National Register of Historic Places, and receive full consideration.
   DATA: Number of sites managed and/or nominated.
   SCALE: Forest-wide, project specific implementation.

INDICATOR 1.4.5 – Specially Designated Areas

What kind of specially designated areas are available across the forests?

DEFINITION: Specially designated areas are either established or recommended for establishment in permanent national designations with certain land use restrictions. Special area designations are generally divided into two types: *Congressional Designations* where the designations have been established through an act of Congress, and *Administrative Designations* where the designations have been established through special administration procedures usually at the national level unless the authority for such establishment has been delegated to the regional or forest level.

DESIRED CONDITIONS: Each specially designated area has specific desired conditions to be managed according to the definitions in the individual authority or the document that authorized the designation such as the *Wilderness Act*.

MEASURES:

1. Wilderness areas managed in accordance with legislative direction to emphasize and preserve representative natural conditions, and provide a wide range of primitive and unconfined recreation opportunities.
   DATA: Intentional human actions that create controls or manipulation of wilderness, physical evidence of modern occupation or modification, non-conforming uses, the amount of mechanical transport and motorized equipment use authorizations. The amount of remote, wilderness more than a quarter mile from open roads and trails; wilderness visitation; amenities provided by management; trail development level; and restrictions on visitor behavior including permits and fees.
   SCALE: By wilderness based on current status and trend from baseline information.
2. The free-flowing nature and outstandingly remarkable values of wild and scenic rivers are protected or enhanced during programmatic or project level work within the stream corridor.
   DATA: Miles of designated or eligible river protected or enhanced, visitor satisfaction.
   SCALE: Each river or stream is measured for its own merit.
3. The Hells Canyon National Recreation Area (HCNRA) is managed according to its establishment act.
   DATA: Number of monitoring items reported, visitor satisfaction.
   SCALE: The Hells Canyon National Recreation Area.
4. Special interest areas are managed based on the values for which they were established and provide a wide variety of unique recreation opportunities for public use and enjoyment.
   DATA: Acres of special interest areas established, visitor satisfaction.
   SCALE:
5. Research Natural Areas
   DATA: Number of representative acres designated or protected as a Research Natural Area.
   SCALE: Variable: region-wide, or eco-region wide.
6. Vinegar Hill-Indian Rock Scenic Area
   DATA: Acres managed to meet standards as described in management plans; visitor satisfaction.
   SCALE:
7. Scenic Byways
   DATA: Miles managed to meet standards as described in management plans for individual routes; visitor satisfaction.
   SCALE:
8. National Recreation Trails
   DATA: Miles managed to meet standards as described in management plans for individual areas or routes, visitor satisfaction.
   SCALE: Variable

INDICATOR 1.4.6 – Access and Use

How and where can the Blue Mountain national forests be used?

DEFINITION: Access can be interpreted as physical or perceived access to land and resources of the national forest. Access refers to the means by which users of the national forest physically enter the national forest as well as the availability of resources to satisfy public demands.

DESIRED CONDITION: The transportation system in the Blue Mountains provides access to support a diversity of uses and experiences. Motorized and non-motorized use provides a range of recreation and non-recreation opportunities, experiences, and challenges. Motorized and non-motorized use occurs on roads and trails, and in areas designated for cross-country travel. Areas are managed within social and ecological capacities in order to maintain the quality of experiences while taking into account the condition

of the land. Opportunities for recreation activities have components accessible to all members of the population.

MEASURES:

1. Over-snow use.
   DATA: Number, type, and miles of open and maintained access routes versus closed routes; number of acres available to motorized and non-motorized use; visitor satisfaction.
   SCALE: Forest-wide.
2. Motorized non-winter use
   DATA: Number, type, and miles of open and maintained access routes versus closed routes; number of acres available to motorized and non-motorized use; visitor satisfaction.
   SCALE: Forest-wide.
3. Access for persons with disabilities.
   DATA: Number of facilities, points, or routes constructed, signed, and maintained to meet the standards of the *Americans with Disabilities Act* (ADA) standards.
   SCALE: Forest-wide.
4. Rights-of-way, easements, and legal access to national forest lands.
   DATA: Number of maintained or acquired legal access versus acres of public land not accessible via legal means.
   SCALE: Forest-wide.

INDICATOR 1.4.7 – Recreation

What kinds and how many recreation activities are available?

DEFINITION: Outdoor recreation, at its broadest definition includes any leisure activity that takes place out-of-doors. The national forests provide a wide spectrum of outdoor recreation opportunities, focusing mostly on the natural resources in rural settings such as parks, forests, lakes and rivers.

DESIRED CONDITION: Recreation activities and services contribute to visitor satisfaction and represent a variety of skill levels, needs, and desires. The Blue Mountain national forests are managed to provide high quality opportunities in partnership with permit holders, private entities, nonprofit/volunteer groups, state, federal, and tribal partners.

MEASURES:

1. Recreation sites and opportunities.
   DATA: Number and type of sites; site capacity and use; visitor satisfaction.
   SCALE: Forest-wide; variable as reported through NVUM surveys
2. Permits and activities provided.
   DATA: Number and type of permit; site capacity and use; visitor satisfaction.
   SCALE: Forest-wide; variable as reported through NVUM surveys
3. Quality of recreation experiences and opportunities
   DATA: Number and type, visitor satisfaction, site capacity and use
   SCALE: Forest-wide; variable as reported through NVUM surveys.

INDICATOR 1.4.8 – Attitudes, Beliefs, and Values

How are people's attitudes, beliefs, and values in relation to the national forests of the Blue Mountains being affected individually and collectively?

DEFINITION: Attitudes are learned predispositions on a given situation. Beliefs are convictions of what is true or right. Values are relatively enduring conceptions about what is good and desirable.

DESIRED CONDITIONS: The diverse attitudes, beliefs, and values associated with the people that live near or visit the national forests of the Blue Mountains are respected and contribute to stewardship ethics and practices that assure the sustainability of the land for present and future generations.

MEASURES: (See also measures for indicators 1.4.1 Hunting, Fishing, and Gathering, 1.4.2 Scenery, 1.4.3 Interpretation and Conservation Education, 1.4.4 Heritage Resources, 1.4.5 Specially Designated Areas, 1.4.6 Access and Use, and 1.4.7 Recreation).

1. Qualitative type, distribution, and intensity of attitudes, beliefs and values.
   DATA: Identify and characterize through various methods such as informal discussions with internal and external key informants, content analysis of comments, field observation, or focus groups.
   SCALE: Administrative unit (national forest/ranger district); geographic place-based values (sense of place).
2. Quantitative type, distribution, and intensity of attitudes, beliefs, and values
   DATA: Identify and characterize quantitatively through surveys such as user perception users, satisfaction surveys. Use national protocol under development for core questions, state or regionally relevant questions, and locally customized or unique questions to account for different scales.
   SCALE: Administrative unit (national forest/ranger district).

PRINCIPAL 2:
Ecological Integrity

Ecological integrity is the wholeness or completeness of an ecosystem and the degree to which it has all the parts (structure and composition) and processes (functions) needed to be self-sustaining.

CRITERIA 2.1 - *Ecological Function*

Is ecological function contributing to ecological diversity?

DEFINITION: The role that any given process, species, population, or physical attribute plays in the interrelation between various ecosystem component or processes (Lugo and others 1995; Szaro 1999). Ecological function refers to the functions or processes that affect ecosystems (Wright and others 2002).

INDICATOR 2.1.1 - Disturbance Processes

Are disturbance processes functioning at an appropriate magnitude, frequency, and extent?

DEFINITION: A disturbance is any change or fluctuation of a system that results in a measurable change in a biological community (Picket and White 1985).

DESIRED CONDITION: Disturbance processes are functioning at an appropriate magnitude, frequency, and timing, considering the historic range of variability.

ELEMENT - Wildland Fire

DEFINITION: Wildland fire: any non-structure fire that occurs in the wildland. Wildland fire has three types: wildfire, prescribed fire, and wildland fire use. *Wildfire*: An unplanned and unwanted fire. *Prescribed fire*: Any fire ignited by management actions designed to meet specific objectives. *Wildland fire use*: The application of the appropriate management response to naturally ignited wildland fire to accomplish specific resource management objectives in predefined designated areas in fire management plans (USDA/USDI 2005).

DESIRED CONDITION:
Wildland fire is functioning at an appropriate magnitude, frequency, and timing, considering the historic range of variability. The following table summarizes the desired condition ranges for wildland fire within the categories of fire intensity, fire frequency, percent of stand-replacing fire, and fire size within each biophysical setting of the landscape being analyzed.

WILDLAND FIRE					
Biophysical Setting	**Historic Fire Frequency & Severity Class** (Fire regime)*	**Fire Intensity**	**Frequency in Years**	**Percent of Stand-Replacing Fire**	**Size in Acres**
Cold forest	4	mixed-high	100-180 (140)	40-80 (60)	1,000-5,000
Cool forest	4	mixed-high	100-180 (140)	40-80 (60)	1,000-5,000
Moist forest	3	mixed	40-80 (60)	20-40 (30)	50-1,000
Warm moist GF/DF*	3	mixed	35-65 (50)	20-40 (30)	50- 1,000
Dry grand fir forest	1	low	15-25 (20)	20-30 (25)	50-1,000
Hot dry pine forest	1	low	10-20 (15)	5-15 (10)	50-1,000
Dry DF/PP* forest	1	low	15-25 (20)	20-30 (25)	50-1,000
Juniper woodland	3	mixed	80-160 (120)	25-45 (35)	250-1,000
Cold shrub	2	high	20-30 (25)	55-95 (75)	
Moist shrub	2	high	20-30 (25)	40-80 (60)	
Dry shrub	2	high	20-30 (25)	55-95 (75)	
Cold herbland	2	high	10-20 (15)	55-100 (80)	
Moist herbland	2	high	10-20 (15)	55-100 (80)	
Dry herbland	2	high	10-20 (15)	55-100 (80)	

Ranges of values in this table are draft and still in the process of being integrated between resource areas.
GF=grand fir DF=Douglas-fir PP=Ponderosa pine

MEASURES:

1. Acres burned for wildfire, prescribed fire, and wildland fire use.
   DATA: Fire frequency, size, and intensity per decade for fire regimes 1-5.
   SCALE: Watershed.
2. Acres of condition class (departure from reference conditions) for fire regimes 1-5.
   DATA: Stand structure, potential smoke production, fuel loading, fire behavior, invasive species, stand species composition, and stand density (plants per acre).
   SCALE: Watershed.
3. Acres of hazardous fuel condition for fire regimes 1-5.
   DATA: Crown fire index, torching index.
   SCALE: Watershed.
4. Ratio of "go" decisions for wildland fire use versus fire starts.
   DATA: Number of wildland use fires and fire starts.
   SCALE: Subbasin or forest-wide.

ELEMENT - *Insect and Disease*

DEFINITION: Disease is defined as a deviation from normal functioning of physiological processes. Insect activity is any measurable damage to plants by insects.

DESIRED CONDITION: Endemic (normal) levels of insect and disease will fulfill the natural role of creating diverse landscapes and components such as hollow trees and snags. Stand conditions will not favor epidemic outbreaks that are outside the natural range of variability.

MEASURES:

1. Acres of low, moderate, or high risk rating for: defoliators, Douglas-fir beetle, fir engraver, spruce beetle, bark beetles in ponderosa pine and lodgepole pine, Douglas-fir dwarf mistletoe, western larch dwarf mistletoe, and root diseases.
   DATA: Timber stand density (trees per acre and canopy closure), stand species composition, potential vegetation type, species by canopy layer, and size class by layer. Outputs will use photo-interpreted data and forest inventory plots.
   SCALE: Watershed.
2. Five-year trends for amount of area impacted by insect and disease.
   DATA: Annual forest pest management aerial detection mapping results.
   SCALE: Forest-wide

INDICATOR 2.1.2 - Watershed Function

Are watershed processes operating in the appropriate frequency, magnitude, and duration?

DEFINITION: Watershed function includes the processes that control the routing of water, sediment, nutrients, and organic material from hill slopes to the channel network. The rates at which these processes occur are a function of climate, geology, landforms, soils, and vegetation.

DESIRED CONDITION: The combined effects of hydrologic processes and a dynamic disturbance regime create and support healthy and diverse terrestrial, aquatic, and riparian habitats.

ELEMENT*: Hydrologic Function*

DEFINITION: The hydrologic functioning of watersheds consists of the ways in which precipitation, either rain or snow, flows through a watershed to become stream flow as influenced by geology, climate, topography, and land cover (Kirkby 1978; Dunne and Leopold 1978). Hydrologic function also includes the variability of flow within stream channels, expressed in terms of timing, magnitude, frequency, and duration (Chow and others 1988; Olden and Poff 2003).

DESIRED CONDITION: The rates of watershed runoff, water yield, timing, frequency, magnitude and duration of runoff, surface erosion, and nutrient cycling are within ranges that support healthy and diverse

terrestrial, riparian, and aquatic habitats. Watersheds exhibit high geomorphic, hydrologic, and biotic integrity relative to their natural potential condition.

MEASURES:

1. Type, condition, and distribution of dominant vegetation types.
   DATA:
   SCALE:
2. Riparian condition and extent.
   DATA:
   SCALE:
3. Wetland conditions.
   DATA:
   SCALE:
4. Soil conditions.
   DATA: Ground cover; soil organic matter; detrimental soil disturbance.
   SCALE:
5. Stream channel conditions.
   DATA: Channel and bank stability; floodplain connectivity; bank erosion rates.
   SCALE:
6. Water quality.
   DATA:
   SCALE:
7. Flow regime.
   DATA:
   SCALE:
8. Aquatic habitat conditions.
   DATA:
   SCALE: Stream reach to river basin; Blue Mountains.

ELEMENT: ***Stream Channel Function***

DEFINITION: Stream channel function includes both physical and biological attributes. Physical attributes of streams are largely a function of stream flow, sediment dynamics, and wood dynamics. Biological attributes of streams include water quality, nutrient dynamics, biological productivity, and aquatic habitat characteristics.

DESIRED CONDITION: Streams and rivers exhibit high physical and biological integrity relative to their potential, are resilient to disturbance, and operate within a range of conditions characteristic of their physical setting.

MEASURES:

1. Flow regime characteristic of the geoclimatic setting organized by ecological subsection or subbasin.
   DATA:
   SCALE:
2. Riparian habitat conditions using riparian management objectives (PACFISH/INFISH) or revised equivalent .
   DATA:
   SCALE:
3. Stream channel stability, bank stability, channel condition using riparian management objectives (PACFISH/INFISH) or revised equivalent.
   DATA:
   SCALE:
4. Aquatic habitat condition and complexity.
   DATA:
   SCALE:
5. Oregon, Idaho, Washington state water quality criteria.
   DATA:

SCALE: stream reach to river basin; Blue Mountains

ELEMENT: ***Riparian Function***

DEFINITION: Riparian areas consist of the vegetation bordering streams, rivers, and some lakes that is affected by stream processes, including floodplains, and which, in turn, affects stream structure and function (Naiman and others 1998).

DESIRED CONDITION: Riparian zones have high native species composition, biological integrity, resilience, and spatial arrangement (layers and sizes) and diversity of vegetation relative to reference or historical conditions.

MEASURES:

1. Stream channel condition using riparian management objectives (PACFISH/INFISH) or revised equivalent.
   DATA:
   SCALE:
2. Riparian area structure, species composition, distribution, extent using riparian management objectives (PACFISH/INFISH), properly functioning condition assessment, or functional assessment.
   DATA:
   SCALE:
3. The percentage, or spatial extent, of intact riparian communities.
   DATA:
   SCALE:
4. Riparian shade.
   DATA:
   SCALE:
5. Aquatic habitat condition.
   DATA:
   SCALE:
6. Oregon, Idaho, Washington State water quality criteria.
   DATA:
   SCALE: stream reach to river basin; Blue Mountains.

ELEMENT: ***Wetland Function***

DEFINITION: Wetlands have three essential characteristics: 1) they occur in areas of shallow, recurrent flooding; 2) they include soils with characteristics of at least seasonal flooding or high water table, and 3) they contain plant species that are adapted to, and tolerant of, saturated soil conditions.

DESIRED CONDITION: Wetland functions and the hydrologic processes that create them are maintained and the spatial extent of wetlands in the landscape is maintained or increased.

MEASURES:

1. Areas of wetlands, including areas of rare wetland types such as bogs, fens, seeps, springs, wet meadows in acres.
   DATA:
   SCALE:
2. Habitat diversity in riparian wetlands.
   DATA:
   SCALE:
3. Flow regime characteristic of geoclimatic setting for riparian wetlands.
   DATA:
   SCALE: Subwatershed to river basin; Blue Mountains.

ELEMENT: ***Aquatic Habitat Function***

DEFINITION: Aquatic habitats include streams, lakes, and permanently or seasonally flooded wetlands, including the variety of plant and animal species that occupy these habitats.

DESIRED CONDITION: Aquatic habitats and the processes that create them are maintained or restored.

MEASURES:

1. Streamflow regime characteristic of geoclimatic setting by ecological subsection or subbasin.
   DATA:
   SCALE:
2. Wetland functional assessment.
   DATA:
   SCALE:
3. Index of biological diversity.
   DATA:
   SCALE:
4. Water quality.
   DATA:
   SCALE:
5. Connectivity of habitats through watershed analysis.
   DATA:
   SCALE: Stream reach to river basin; Blue Mountains.

INDICATOR 2.1.3 - Productive Capacity

Are we maintaining the long-term productivity of the ecosystem?

DEFINITION: Productivity is the sum total of individual organisms accumulation of living plant material (biomass) over time

DESIRED CONDITION: Long-term productivity of aquatic, riparian, and terrestrial systems is maintained or restored. Nutrient cycling processes are consistent with historic patterns of occurrence (regimes).

ELEMENT: ***Biomass Status***

DEFINITION: Biomass includes any living plant material.

DESIRED CONDITION: The rate of accumulation of biomass will not exceed the sum of biomass removal and mortality.

MEASURES:

1. Ratio of growth to mortality for each biophysical setting
   DATA: Current Vegetation Survey (CVS) based estimates for average annual increment of tree growth; grassland/shrubland estimates of pounds per acre plant growth; harvest removal amount from timber sale records and other forest product permits; mortality totals from CVS data; and grazing removal of grass and shrubs based on Animal Unit Month (AUM) records for domestic livestock.
   SCALE: Forest-wide

ELEMENT: ***Nutrient Dynamics***

DEFINITION: Nutrient cycling describes the movement or exchange of essential chemical elements between living (organic) and non-living (inorganic) components of an ecosystem and is largely controlled by the chemical properties of the different elements.

DESIRED CONDITION: The availability, cycling, and exchange of nutrients within and between terrestrial, riparian, and aquatic ecosystems are sufficient to maintain the long-term productivity of those systems.

MEASURES:
Terrestrial:
1. Soil organic matter content
   DATA:
   SCALE:
2. Area of detrimental soil disturbance
   DATA: compaction, displacement
   SCALE:
3. Soil ground cover
   DATA:
   SCALE:
4. Vegetative condition
   DATA: ground cover, organic matter, site productivity
   SCALE:

Aquatic:
1. Water quality, water chemistry
   DATA:
   SCALE:
2. Stream channel condition
   DATA:
   SCALE:
3. Watershed condition
   DATA:
   SCALE:
4. Index of Biological Integrity
   DATA:
   SCALE:
5. Riparian condition
   DATA:
   SCALE:
6. Wetland extend; wetland functional assessment
   DATA:
   SCALE: Sub-watershed to river basin

INDICATOR 2.1.4 - Population Sustainability

Are habitat conditions sufficient to sustain native populations of plants and animals?

DEFINITION: 1) The capacity of a species population to maintain sufficient density to persist, well distributed, over time (SAF 1998). 2) Populations that are sufficiently abundant, interacting, and well-distributed in the planning area, within bounds of their life history and distribution of the species and the capability of the landscape, to provide for their long-term persistence, resilience, and adaptability over multiple generations (FSM).

DESIRED CONDITION: Within the Blue Mountains habitat for native species, (including threatened and endangered species, species-of-concern, and species-of-interest), are maintained and restored to sufficient quality, distribution, and abundance allowing for populations and individuals to interact and disperse.

MEASURES:
1. Habitat quality and quantity.
   DATA: Bayesian Belief Network Models will be utilized to evaluate the effects of management decisions on native species, as well as, management risk and threat information.
   SCALE: Variable.

INDICATOR 2.1.4 - Invasive Species

Are invasive species having a minimal impact on the ecosystem?

DEFINITION: A species that is nonnative to the ecosystem under consideration and its introduction causes or is likely to cause economic or environmental harm, or harm to human health (EO #13112).

DESIRED CONDITION: Healthy native plant communities remain diverse and resilient, providing high quality habitat.

MEASURES:

1. Acres of invasive species present on the landscape.
   DATA: Survey data and GIS maps for each invasive species of concern to monitor trend.
   SCALE: Watershed
2. Acres treated by year.
   DATA: Treatment type and extent.
   SCALE: Forest-wide
3. Acres of land susceptible to invasive species (hazard assessment).
   DATA: Plant community type, disturbance history, distance from known infestation, climate.
   SCALE: Watershed.

CRITERIA 2.2 - Ecological Structure and Composition

Does the landscape structure and composition help maintain a resilient system?

DEFINITION: Structure and composition include elements such as stand structure (number of layers and sizes of plants), species composition (percent of species distribution), down logs, and snags.

DESIRED CONDITION: The structure and composition of systems such as organisms, populations, ecosystems, and landscapes maintains or recreates resilient and sustainable conditions.

INDICATOR 2.2.1 – Plant Community Diversity

Are plant communities functioning within a historic range of variability?

DEFINITION: The living and non-living components of a landscape (Hunter 1996).

DESIRED CONDITION: Plant communities within the Blue Mountains are sustained within the historic range of variability while recognizing the continuing influence of human and natural disturbances.

ELEMENT: Structural Stage

DEFINITION: A stage or recognizable condition that relates to the physical orientation and arrangement of vegetation (Powell 1996).

DESIRED CONDITION: The distribution and abundance of structural stages creates conditions that are resilient, sustainable, and compatible with maintaining necessary disturbance processes. The following table summarizes the desired condition ranges for structural stages within each biophysical setting of the landscape being analyzed.

STRUCTURAL STAGES IN FORESTED ENVIRONMENTS (percent per structural stage)							
Biophysical Setting	**Post Disturbance**	**Stand Initiation**	**Stem Exclusion**	**Understory Reinitiation**	**Young Forest Multistory**	**Old Forest Multistory**	**Old Forest Single-story**
Cold forest		1-20	0-20	5-25	20-50	20-60	0-5
Cool forest		1-20	0-20	5-25	10-40	10-40	0-5
Moist forest		1-10	0-25	5-25	10-40	10-40	0-5
Warm moist							

GF/DF forest							
Dry grand fir forest		5-15	0-15	1-10	5-25	5-20	15-55
Hot dry pine forest		5-15	5-20	0-5	5-10	5-15	20-70
Dry DF/PP forest		5-15	5-20	1-10	5-25	5-20	15-55
Juniper woodland							

Ranges of values in this table are draft and still in the process of being integrated between resource areas.
GF=grand fir DF=Douglas-fir PP=Ponderosa pine

MEASURES:

1. Change in acres.
   DATA: Biophysical setting and structural stage from Current Vegetation Survey data.
   SCALE: Watershed.
2. Percentage of area meeting desired structural stage ranges.
   DATA: Current biophysical setting and structural stage acres.
   SCALE: Watershed.

ELEMENT: Species Composition

DEFINITION: The percentage of different species of plants within each area of similar vegetation (stand).

DESIRED CONDITION: The mix of species composition within the landscape creates conditions that are resilient, sustainable, and compatible with maintaining necessary disturbance processes. The following table summarizes the desired condition ranges for species composition within each biophysical setting of the landscape being analyzed.

SPECIES COMPOSITION IN FORESTED ENVIRONMENTS										
Biophysical setting	**Juniper**	**Ponderosa Pine**	**Douglas-fir**	**Western Larch**	**Grand Fir**	**Lodgepole Pine**	**Subalpine Fir**	**Spruce**	**White-Bark Pine**	**Aspen**
Cold forest						20-60	15	15		
Cool forest						10	20-40		30	
Moist forest		5-15	15-30	10-30	5-30	5-30		0-5		
Warm moist GF/DF forest										
Dry grand fir forest		40-60	10-15	5-10	5-10	5-10				
Hot dry pine forest	0-5	80-100								
Dry DF/PP forest		40-60	2-30							
Juniper woodland	100									

Ranges of values in this table are draft and still in the process of being integrated between resource areas.
DF=Douglas-fir PP=Ponderosa pine

SPECIES COMPOSITION IN GRASSLAND AND SHRUB UPLAND SYSTEMS					
Biophysical Setting	**Early**	**Mid**	**Late**	**Potential Natural Community**	
Cold shrub	0-10%	40-60%	10-20%	0-10%	
Moist shrub					
Dry shrub					
Cold grassland					
Moist grassland					
Dry grassland					

Ranges of values in this table are draft and still in the process of being integrated between resource areas.

MEASURES:

1. Percentage of the planning area meeting the desired species composition ranges.
   DATA: Plant association, species type, abundance based on trees per acre, basal area, or canopy closure from Current Vegetation Survey (CVS) and ecology/range data.
   SCALE: Watershed.

ELEMENT: ***Abundance of Plants***

DEFINITION: Number of plants per unit of area expressed as trees per acre, canopy closure, or basal area.

DESIRED CONDITION: Plant abundance (stand density index (SDI) for forested vegetation will create conditions that are resilient, sustainable, and compatible with maintaining necessary disturbance processes using ranges published by Cochran and others (1996) and Powell (1999). The following table displays desired percentages of plant abundance ranges for each biophysical setting and favored tree species within the landscape being analyzed.

PLANT ABUNDANCE in FORESTED ENVIRONMENTS (Forested Stand Density Index (SDI) Values)			
Biophysical setting	**0-50% of full stocking**	**50-75%% of full stocking**	**75%+ of full stocking**
Cold forest	20-30% of the landscape	30-40% of the landscape	20-30% of the landscape
Cool forest			
Moist forest			
Warm moist DF/GF forest			
Dry grand fir forest	10%	80%	10%
Hot dry pine forest			
Dry DF/PP forest			
Juniper woodland			
riparian forest			

Ranges of values in this table are draft and still in the process of being integrated between resource areas.
GF=grand fir DF=Douglas-fir PP=Ponderosa pine

PLANT ABUNDANCE in GRASSLAND and SHRUB UPLANDS (Canopy Closure)		
	0-40%	40%+
Cold shrub		
Moist shrub		
Dry shrub		
Cold grassland		
Moist grassland		
Dry grassland		

Ranges of values in this table are draft and still in the process of being integrated between resource areas.

MEASURES:

1. Percent of area meeting the various levels of plant abundance on the landscape.
   DATA: Plant association type, trees per acre, basal acre, tree diameter, canopy closure.
   SCALE: Watershed.

INDICATOR 2.2.2 - Air, Soil, and Water Quality

Are we creating or maintaining high air, water, and soil conditions?

ELEMENT : ***Air Quality***

DEFINITION: Air quality is based on the absence of substances that reduce visibility (such as fine particulates), or are harmful to human health and other terrestrial organisms. Toxic substances include lead, volatile organic compounds, and sulfur-bearing compounds.

DESIRED CONDITION: Air quality in the Blue Mountains will comply with *Clean Air Act* standards, state Air Quality Management Plans and Memorandums of Understanding between the Oregon Department of Environmental Quality and Pacific Northwest Region of the Forest Service which places annual limits on particulate emissions from prescribed fires on national forest lands in northeastern Oregon.

MEASURES:

1. Compliance with state air quality standards (Oregon, Idaho, and Washington)
   DATA: Particulate emissions, acres of wildfires, acres of prescribed fires
   SCALE:
2. Compliance with state air quality management plans
   DATA: Particulate emissions (tons per year)
   SCALE: Blue Mountains

ELEMENT: Soil Productivity

DEFINITION: Soil quality refers to the ability of soils to support vegetation and is controlled by the breakdown and accumulation of organic material by microorganisms, the availability of moisture and nutrients, physical properties of soils such as texture, depth, infiltration capacity, water holding capacity, and chemical properties.

DESIRED CONDITION: The productivity of forest and range soils is maintained at levels that contribute to long-term sustainability of forest and rangeland ecosystems. The biological, chemical, and physical properties of soils are maintained at levels that preserve the long-term productive capacity, including the hydrologic functioning of watersheds, and water quality.

MEASURES:

1. Soil quality standards (adapted to local conditions).
   DATA: Ground cover, soil organic matter, displacement, bulk density, compaction, detrimental soil disturbance.
   SCALE:
2. Vegetative conditions.
   DATA: site productivity; site condition class.
   SCALE: sub-watershed to watershed.
3. Watershed condition.
   DATA: disturbance history (fire severity, landslides, slope failures), land use history (acres of timber harvest by type, road density, grazing intensity).
   SCALE:
4. Water quality.
   DATA: suspended sediment, turbidity.
   SCALE:

ELEMENT : *Water Quality*

DEFINITION: Water quality refers to the capability to support aquatic species and to provide water suitable for human use and consumption.

DESIRED CONDITION:

The physical, chemical, and biological integrity of surface and groundwater is sufficient to provide for human uses, and the needs of terrestrial and aquatic species, and human uses. Water quality in streams on national forest lands in the Blue Mountains will comply with designated state (Oregon, Washington, or Idaho) water quality standards.

MEASURES:

1. Compliance with state water quality standards for Oregon, Washington, or Idaho.
   DATA: water chemistry, nutrients, temperature, turbidity, suspended sediment, dissolved oxygen, metals, acidity.
   SCALE:
2. Completion of total maximum daily loads (TMDLs)
   DATA:
   SCALE:
3. Biomonitoring
   DATA: Index of Biological Integrity, or similar measure.
   SCALE: Subwatershed to subbasin.

INDICATOR 2.2.3 - Landscape Patterns

Are landscape patterns maintained in a manner that promotes ecosystem and species diversity?

DEFINITION: The pattern of vegetative and non-vegetated forms on the landscape.

DESIRED CONDITION: Landscape patterns are spatially and temporally diverse. Patch size and shape are sustained within the appropriate range of variability for the plant communities found within the planning area. The following table displays desired attributes for landscape patterns:

LANDSCAPE PATTERNS						
Biophysical Group	**Patch Size** (in acres)	**Patch Shape**	**Patch Distribution**	**Connectivity**	**Interior Habitat**	**Contagion**
Cold forest						
Cool forest						
Moist forest						
Warm moist DF/GF						
Dry grand fir forest						
Hot dry pine forest						
Dry DF/PP forest						
Juniper woodland						

Ranges of values in this table are draft and still in the process of being integrated between resource areas.
GF=grand fir DF=Douglas-fir PP=Ponderosa pine

MEASURES:

1. Percentage of landscape meeting the desired patch size, shape, and distribution.
   DATA: Biophysical setting type, structural stage, geographic information system (GIS) map.
   SCALE: Watershed.

INDICATOR 2.2.4 - Special Habitats

Are special habitats prevalent on the landscape?

DEFINITION: Special habitats are unique groupings of living organisms and/or abiotic (non-living) habitat elements that are limited in geographic extent. Examples of these habitats may include caves, cliffs, talus slopes, snags, downed logs, aspen stands, mountain mahogany woodlands, other shrub communities, springs, seeps and bogs. Another type of special habitats are ecological legacies, which are structures or components of ecosystems that exist prior to a disturbance and are "inherited" by the post-disturbance community (Rose and others in Johnson and O'Neil 2001).

DESIRED CONDITION: Special habitats are sustained in good condition and are prevalent on the landscape.

ELEMENT: ***Down Woody Material***

DEFINITION: Non-living woody material on the forest floor in terrestrial and aquatic systems.

DESIRED CONDITION: Down woody material amount and distribution provides habitat for sustainable populations of wildlife and aids in maintaining long-term site productivity while not contributing to uncharacteristic disturbances. The following table displays desired ranges of amounts for down woody material in each biophysical setting.

Biophysical Group	0-3" tons/acre	3-9" tons/acre	9-20" tons/acre	20"+ tons/acre	Total tons per acre *	Pieces/ac >12" dia	Lineal feet/acre > 12" dia
Cold forest						15-20	120-160
Cool dry forest						15-20	120-160
Moist forest						15-20	120-160
Warm moist DF/GF							
Dry grand fir forest					2.4	15-20	100-140
Hot dry pine forest					2.4	3-6	20-40
Dry DF/PP forest					2.4	6-10	40-100
Juniper woodland							
Riparian forest							

Ranges of values in this table are draft and still in the process of being integrated between resource areas.
GF=grand fir DF=Douglas-fir PP=Ponderosa pine

MEASURES:

1. Amount of downed woody material.
   DATA: Piece size, weight, and biophysical setting from Current Vegetation Survey (CVS) data.
   SCALE: National forest or watershed.

ELEMENT: ***Snags***

DEFINITION: A standing dead tree, usually larger than five feet tall and six inches in diameter at breast height (USDA/USDI 2000).

DESIRED CONDITION: Standing dead tree abundance and distribution provides habitat for sustainable populations of wildlife and aids in maintaining long-term site productivity while not contributing to uncharacteristically severe disturbances. The following table displays desired amounts for standing dead trees in each biophysical setting.

Biophysical group	5-10" dbh	10-15" dbh	15-20" dbh	20"+ dbh	Total trees per acre
Cold forest					
Cool forest					
Moist forest					
Warm moist DF/GF					
Dry grand fir forest					2.2
Hot dry pine forest					2.2
Dry DF/PP forest					2.2
Woodland forest					
riparian forest					

Ranges of values in this table are draft and still in the process of being integrated between resource areas.
GF=grand fir DF=Douglas-fir PP=Ponderosa pine

MEASURES:

1. Numbers of snags.
   DATA: Dead tree size, trees per acre, biophysical setting from Current Vegetation Survey plot data.
   SCALE: Forest-wide or watershed.

PRINCIPAL 3:
Economic Well-Being

Economic well-being is the degree to which conditions enable people to work, provide income for their families and lifestyle, accumulate capital, and contribute wealth to the nation. It is dependent on factors such as geography, employment security, community resiliency, and ecological conditions.

CRITERIA 3.1 – Capital and Wealth

Are present needs being met without compromising future needs?

DEFINITION: Wealth is the ability to gain social and economic value from sustaining the natural, built, and human capital. These assets roughly correspond to the basic production inputs of land, labor, and capital (Costanza and Daly 1992).

DESIRED CONDITIONS: Investments maintain desired natural, built, and human capital to sustain social and economic well-being and ecological integrity.

INDICATOR 3.1.1 – Natural Capital

Is the quantity and quality of natural capital being sustained?

DEFINITION: Natural capital is the living and non-living resources that yield a flow of diverse and valuable goods and services into the future (Millennium Ecosystem Assessment 2003).

DESIRED CONDITIONS: The national forests of the Blue Mountains contribute natural capital to sustain desired social, ecological, and economic benefits.

MEASURES:

1. See measures of supporting indicators necessary for the production of all other goods and services such as 2.1.3 Productive Capacity 2.1.3 and 2.2.2 Air, Soil, and Water Quality.
   DATA: Biomass production, production of atmospheric oxygen, soil formation and retention, nutrient cycling, water cycling, and provisioning of habitat.
   SCALE:
2. See measures of provisioning indicators for products obtained from ecosystems such as 2.1.3 Productive Capacity and 2.1.2 Watershed Function.
   SCALE:
   DATA: Fiber, food, fresh water, natural medicines, and ornamentals
3. See measures of regulating indicators that provide benefits obtained from regulation of ecosystem processes such as 2.1.1 Disturbance Processes and 2.1.4 Invasive Species.
   DATA: Regulation of climate, disease control, water regulation, and purification
   SCALE:
4. See measures of cultural indicators that provide non-material benefits to people from ecosystems such as 1.4.2 Scenery, 1.4.7 Recreation, and 1.4.8 Attitudes, Beliefs, and Values.
   DATA: Spiritual enrichment, cognitive development and reflection, recreation and aesthetic experience, educational, inspirational, sense of place, and cultural heritage)
   SCALE:

INDICATOR 3.1.2 – Built Capital (Facilities and Infrastructure)

How are the roads, trails, and facilities on the Blue Mountains national forests being maintained?

DEFINITION: The *facilities* that are part of the national forest system include developed recreation sites, administrative buildings, and structures necessary for managing the forest. The transportation system of

roads and trails that support use of and access to the national forests is referred to as the *infrastructure* of the forest.

DESIRED CONDITIONS: Facilities and infrastructure (the transportation system of roads and trails) are high quality, well maintained, safe, accessible, and consistent with visitor expectations. Facilities and infrastructure are constructed and maintained to meet established national standards. Structures are well integrated into the landscape and constructed with environmentally sensitive technology.

MEASURES:

1. Amount and type of roads, trails, and facilities.
   DATA: Distribution and density of roads, number, and type of facilities, using the Infra database as the baseline.
   SCALE: Forest-wide.
2. Condition of roads, trails, and facilities.
   DATA: Miles maintained to standard for roads and trails, facilities maintained to standard using the Infra database as the baseline.
   SCALE: Forest-wide.
3. Asset value.
   DATA: Percentage change over a ten-year period using the Infra database as the baseline.
   SCALE: Forest-wide.
4. Maintenance costs.
   DATA: Dollars spent to maintain using the Infra database as the baseline.
   SCALE: Forest-wide.
5. Deferred maintenance backlog.
   DATA:
   SCALE: Forest-wide.
6. Capacity of roads, trails, and facilities.
   DATA: User satisfaction, using National Visitor Use Monitoring (NVUM) surveys.
   SCALE: Forest-wide.

INDICATOR 3.1.3 - Human Capital

Does the workforce match the needs to achieve desired conditions?

DEFINITION: Human capital includes an individual's education, skills, culture, and knowledge that enhance their contributions to society (Castle 1998).

DESIRED CONDITIONS: The national forests invest in human capital to sustain desired social, ecological, and economic benefits. People have the education, skills, culture, and knowledge to maintain the natural and built capital of the Blue Mountains.

MEASURES:

1. Diversity of worker skills, education, knowledge, and competitiveness for natural resource employment.
   DATA: Assessments of contractors based on structured interviews, training sessions, workforce analysis of skill matches to available full-time equivalent (FTEs) jobs for out-year programs of work.
   SCALE: County; Administrative unit (national forest/BLM district).
2. Percent of total natural resource work awarded to residents.
   DATA: Percentage of contracts awarded to local residents.
   SCALE: County; Blue Mountains; John Day Basin

CRITERIA 3.2 – Goods and Services, and Other Values

What goods and services and other values are desired?

DEFINITION: Goods and services result from the sustainable use of flows from natural, built, and human capital to provide desired needs. Other values are intangible and non-consumptive uses of capital and flows.

DESIRED ONDITIONS: The national forests of the Blue Mountains contribute to desired social, ecological, and economic goods and services and other values.

INDICATOR 3.2.1 – Goods and Services

How much and what types of goods and services are provided?

DEFINITION: Goods and services are part of the flows from natural, built, and human capital that are consumed by people.

DESIRED CONDITIONS: The national forests of the Blue Mountains produce sustainable flows of goods and services from natural capital within the regenerative capabilities of ecosystems.

MEASURES:

1. Quantity of flows that are consumptive or exclusionary uses.
   DATA:
   Forest Products
   Volume of sawtimber and other wood products harvested; quantity of non-timber products including post and poles, fuelwood, boughs, floral, mushrooms, or other gathering activities.
   Forage
   Animal Unit Months (AUMs) for domestic livestock grazing.
   Recreation
   National Visitor Use Monitoring; number of service days; number of permits; outfitter and guide permit fees; Recreation use by type and season; fee or non-fee sites and/or areas.
   Water
   Water volume and quality.
   Minerals
   Number of permits from mineral operations by type; land area under permits; tons of minerals extracted.
   Oil, gas, geothermal, coal, shale
   Number of permits for energy sources (wind, oil, geothermal); land area under permits; energy resources generated.
   Special use permits (non-recreation)
   Utility corridors; communication sites; water impoundments/diversions.
   SCALE: Administrative unit (national forest/BLM district).

INDICATOR 3.2.2 – Other Values

What other values are desired?

DEFINITION: Other values are intangible and non-consumptive uses of capital and flows. They are tied to the amount and quality of the capital assets as well as the flows from natural, built, and human capital.

DESIRED CONDITIONS: The national forests of the Blue Mountains contribute to the desired quantity and quality of capital and flows within the limits of social, ecological and economic sustainability.

MEASURES: (See also measures for criteria 2.1 Ecological Integrity, indicator 3.1.1 Natural Capital, indicator 3.1.2 Built Capital (Facilities and Infrastructure), and indicator 3.1.3 Human Capital).

1. Quantity and quality of selected capital.

DATA:
Natural Capital (see criteria 2.1 Ecological Integrity and indicator 3.1.1 Natural Capital)
Forest condition; range condition; aquatic condition.
Built Capital (see 3.1.2 Built Capital).
Road and trail miles and condition; campground capacity and condition
Human Capital (see 3.1.3 Human Capital).
Workforce; leadership.
SCALE: Administrative unit (national forest/ranger district/BLM district).

2. Quantity and quality of key flows.
DATA:
Water.
Miles of steams listed under Section 303d of the Clean Water Act.
Air quality (see 2.2.2 Air Quality).
Species viability.
Status and trends of threatened and endangered species listings.
SCALE: Administrative unit (national forest/ranger district/BLM district).

CRITERIA 3.3 – Trade and Distributional Equity

How are the social and economic benefits and costs from the national forests of the Blue Mountains shared?

DEFINITION: Trade is the buying and selling of goods and services, and distribution refers to who pays the costs of producing those goods and services and who gets the benefits.

DESIRED CONDITIONS: The national forests of the Blue Mountains contribute to, maintain, and enhance the economic relationships with local communities including the production of goods and services. Efforts are made to expand and diversify these relationships by improving the diversity of natural resource-related economies in the Blue Mountains. The national forests emphasize employing the local workforce and purchasing locally.

INDICATOR 3.3.1 - Trade Balance

Are local economies self-sustaining?

DEFINITION: The trade balance is a comparison of the goods and services that are produced locally and sold in markets outside the area (exports) and the goods and services which locals purchase from outside the local area (imports).

DESIRED CONDITIONS: The national forests of the Blue Mountains provide goods and services, and manage capital and flows that contribute to supporting local economic conditions.

MEASURES:
1. Economic base.
DATA: Determine industry exports (trade balance) through input-output modeling.
SCALE: County; Blue Mountains; John Day Basin.
2. Income sources.
DATA: Identify sources of income (wage, transfer payments, and savings) using secondary data sources such as Economic Profile System (EPS) and Natural Resource Information Systems for Human Dimensions (NRIS HD).
SCALE: County; Blue Mountains; John Day Basin.

INDICATOR 3.3.2 – Employment and Income

How does the production of goods and services on the national forests of the Blue Mountains affect local economies?

DEFINITION: Employment and income refers to the number of people working full or part-time and the income they receive for this work.

DESIRED CONDITIONS: The stewardship of the national forests of the Blue Mountains and the production of goods and services from these lands contribute to local employment and income opportunities.

MEASURES: (See also measures for indicator 3.2.1 Goods and Services).

1. Direct and indirect employment and income by sector associated with national forests and percent of total.
   DATA: Determine employment data from secondary data sources and input-output modeling .
   SCALE: County; Blue Mountains; John Day Basin.
2. Personal income by type.
   DATA: (see indicator 3.2.1 Goods and Services for income sources)
   SCALE: County; Blue Mountains; John Day Basin.

INDICATOR 3.3.3 – Distribution

How are benefits and costs being distributed and who receives these?

DEFINITION: Distribution refers to the manner in which benefits and costs to and from the national forests of the Blue Mountains are dispersed.

DESIRED CONDITIONS: Investments in natural, built, and human capital contribute to achieving ecological integrity and support long-term investments in infrastructure, equipment, and labor. Strategies and mechanisms for distribution of benefits and costs strengthen community resiliency and public service.

MEASURES: (See also measures for indicator 3.2.2 Other Values).

1. Sources of budgetary expenditures (such as congressional appropriations, forest users, volunteers, partners).
   DATA: Agency budgets, fees, partnership agreements, volunteer agreements
   SCALE: County, Blue Mountains; John Day Basin.
2. Economic impact of expenditures by program area.
   DATA: See indicator 3.2.2 Other Values.
   SCALE: County, Blue Mountains; John Day Basin.
3. Economic impact of federal-land revenue sharing and payments in lieu of taxes (PILT) distributions to county budgets.
   DATA: Determine from input-output modeling (INPLAN).
   SCALE: County, Blue Mountains; John Day Basin.
4. Revenues, receipts, and royalties by type.
   DATA: Determine from collection statements.
   SCALE: Blue Mountains; John Day Basin; administrative unit (national forest/BLM district).
5. Assessment of mechanisms for and equitability of distribution (link to 1.1.2 and 1.4.8)
   DATA: Semi-structured interviews of program managers and administrators of payments in lieu of taxes (PILT), 25% receipts, Title II and III of the Secure Rural Schools Act, and stewardship contracts.
   SCALE: Blue Mountains; John Day Basin; administrative unit (national forest/BLM district).