

Summary

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Progress Towards Sustainability on the Mt. Hood National Forest

From 1999 through 2001, the Mt. Hood National Forest, in partnership with Portland State University, participated in the Local Unit Criteria and Indicator Development (LUCID) pilot test to determine whether adopting a program of sustainability monitoring could enhance current monitoring programs at the local scale in the Forest Service. Two key outcomes of the LUCID pilot test were the use of a systems approach to monitoring and development of locally relevant suite of criteria and indicators as the framework for the monitoring process.

Using the tools and lessons learned from the LUCID test, the Mt. Hood National Forest is transitioning into a monitoring program that can answer the key sustainability questions and build a long-term method for looking at the Forest. The purpose of this report is to enhance understanding of the ecological, social, economic and institutional conditions and trends related to the Mt. Hood National Forest in order to contribute to a continuing dialog on achieving progress in sustainable management.

The term sustainability expresses the human desire for an environment that can provide for our needs now and for future generations. Finding a specific definition of sustainability that is broadly acceptable is difficult because it is about values that vary among groups and over time. It requires decisions about what to sustain, for whom, for how long, at what cost, and how. It is best achieved by optimizing the critical components of social, economic and ecological systems.

Sustainability is the understanding of all the components and their interactions. Over the past several decades, the quest for sustainability has emerged as a central theme of economic development, social policy, and natural resource management at local, regional, national, and international levels.

There are many reasons we should care about sustainability. Some of these include:

- Take actions today that don't compromise the choices of future generations.
- Steer us in the direction of systems thinking in our everyday management of the forests.
- Make better management decisions that would improve sustainable conditions.
- Help focus on the key issues or components helping managers to prioritize management actions and resources.
- Identify areas contributing to sustainability and areas that may be improved through adaptive management.
- Affect ecological carrying capacity to provide goods and services based on changing values and demands on our Forest.
- Engage in a dialogue with our publics about what sustainability means on our Forest to help create a common understanding and vision.
- Emphasize stewardship goals for National Forest Systems as addressed in the 2004 planning rule.

Systems-based Approach

Transitioning the monitoring report to a systems-based framework provides a more holistic view of the conditions and issues on the Forest in a sustainability context. A systems-based framework helps to describe important relationships across social, economic and ecological systems. It provides a logical link between sustainability and monitoring by helping place the monitoring component (the indicator) in the context of larger systems and its interactions with other components of the system. The framework is organized by the structures and functions of the ecological, social and economic systems. This represents the core set of criteria and indicators used to characterize the critical system components of forest sustainability on the Mt. Hood National Forest. The collective information from all indicators is what informs us about the status of forests. See Appendix B for the Mt. Hood National Forest's list of criteria and indicators.

The overview summary of the monitoring report, as well as some of the individual reports in Chapter 2, is presented in the systems-based framework.

An Overview of Current Resource Conditions

Ecological Integrity

The ecological criteria and indicators were based on maintaining integrity of ecological systems to provide sustainable forests.

Landscape Function, Structure and Composition

Ecosystems are dynamic and as such disturbances and stresses are part of them. It is important to note those disturbances and stresses that are either foreign to or outside the range of the disturbances and stresses with which the ecosystem evolved. Such disturbances and stresses pose a serious threat to the sustainability of a given ecosystem because they may exceed the ability of the ecosystem to accommodate them without major changes in the structure, composition, and/or function components. Disturbances impact all aspects of ecosystems at a landscape level including successional pathways, carbon balances, nutrient cycles, water quality and quantity, habitat and forage availability, scenery, availability of products, and economic values of products. The landscape function, structure, and composition criteria and indicators provides us with information about the landscape's ability to increase or decrease the effects of fire and wind on the Forest; to provide habitat for different kinds of wildlife including rare species; to resist and recover from disturbances; to filter and maintain water quality; and to provide information on the diversity and pattern of land cover types. It also helps us to look at the implications of vegetation management actions including road building on attaining landscape-desired conditions. These criteria and indicators focus on the processes,

structures and composition that influence landscape patterns and distribution.

Wildfire/Prescribed Fire

Fire is a dominant disturbance process that has influenced vegetation at many spatial scales over the past several centuries. At a broad scale, fires influenced vegetation patterns by affecting the distribution of stand types and seral stages across the landscape. Intensity and frequency of fires can affect composition and structure of plant communities at a finer scale. Current vegetation pattern and plant community dynamics have been altered by fire suppression. This raises sustainability questions about what are the effects of the current fire regimes and management activities towards achieving desired vegetation and landscape patterns.

The overall goal of the fire management program is to provide fire protection capability to support attainment of land and resource objectives. Fire protection and fuel treatment objectives are identified in the Forest Plan for monitoring. It estimates that there should be no increase in the number of wildfires on the Forest based on the standards and guidelines. To date, the number of fires and acres burned are below Plan estimates. Changes in vegetative conditions, however, have altered disturbance regimes, particularly on the drier eastside of the Forest; resulting in the potential for larger, more severe fires that are outside the historic range of variation. Changes in stand structure, species composition, and accumulated fuels have predisposed extensive areas to insect infestations, disease, and high-intensity wildfires that may threaten nearby communities, watersheds and key ecological components. It is expected that resource damage and value lost will increase.

2004 Monitoring Report

These altered disturbance regime areas are specifically targeted by the 10-Year Cohesive Strategy and the Mt. Hood 5-year strategy for integrating fuels and vegetation treatments. Specific objectives of these strategies include modifying fire behavior to protect homes, infrastructure and municipal watersheds in the Wildland Urban Interface (WUI), and ecologic restoration of stands and landscapes outside of the WUI. In 2004, the Forest completed hazardous fuel treatment of 1,357 acres of which 1,115 acres were in WUI, Fire Regime 1.

The Healthy Forest Restoration Act (HFRA) passed in 2003, the related Healthy Forest Initiative (HFI), and the Tribal Forestry Protection Act of 2004 developed new administrative and legislative tools to help restore healthy ecosystems and assist in executing core components of the National Fire Plan that will accelerate treatments designed to restore healthy ecosystems. In 2004, the Forest started planning projects under HFRA and HFI. The Forest is continuing to seek markets for biomass and small-diameter material. Development of local co-generation facilities and mobile chipping plants are examples of several processes that will help to make biomass utilization a reality.

The Forest has prioritized planning and implementing landscape scale fuels and vegetation management projects entering into cooperative efforts with the State, Tribal governments and local landowners. An effort to update the fire regime condition classes, and forest vegetation and fuels data is continuing and will greatly enhance our ability to quantify and monitor many deteriorating conditions in these ecosystems, including how current fire regime and management activities are affecting vegetation and landscape patterns, how to incorporate fire back into the ecosystem, and how Forest Service efforts in stewardship, partnerships, education and training are contributing to restoring forest health and safety. This effort should provide fire managers with the landscape-scale

information that will help improve strategic decision-making in both the prescribed fire and wildfire arenas.

Harvest/Silviculture

Timber and wood fiber production continues to be a principal forest activity. However, over the last decade, there has been a decline in timber harvest. Less than 1% of the land base is being treated to meet various objectives. Vegetation management is prioritized towards restoration treatments such as reducing fire hazards, improving wildlife habitat and maintaining forest health. This raises sustainability questions about the effects of management activities on achieving desired vegetation and landscape patterns.

Prescriptions to treat forest health concerns and to provide wood products have been implemented over the last several years and continued in 2004. Timber harvest is occurring on a very small portion of the landscape. Harvest occurred on 917 acres, which is less than 1/100th of a percent of the total acreage of the Mt. Hood National Forest. The majority of the harvest occurred on lands designated as matrix lands in the Northwest Forest Plan, with a small percent in riparian reserves. Commercial thinning accounted for 68% of the acres treated and shelterwood harvest accounted for 32%. In the last decade, there has been an overriding shift from regeneration harvest to commercial thinning. Harvesting continues to occur at a rate below the annual probable sale quantity. Pre-commercial thinning was accomplished on 1,375 acres on the Forest. Precommercial thinning can greatly influence the future trajectory of the stand both in terms of species composition, and horizontal and vertical arrangement.

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Current and potential future forest health issues continue to be a concern on the Forest. This includes a backlog of 13,000 overly dense, young stands in need of pre-commercial thinning; large acreages of changed ecological conditions on the eastside as a result of fire suppression; and increasing levels of insect damage and mortality. Recommendations are for more thinning to improve stand conditions in both the pre-commercial and commercial size classes.

Noxious Weeds

Noxious weeds or invasive plant species are recognized as a major threat to native plant communities especially on disturbed sites and grasslands. Invasive plants displace native vegetation, alter species composition of forests and rangelands, reduce the productivity of desired commodities, reduce species diversity, and adversely affect recreational quality. The Forest Plan goal is to control noxious weed infestations and prevent their spread. Currently, the total area of inventoried noxious weed infestation on the Mt. Hood National Forest is approximately 3,000 acres. This underestimates actual total infested acres, which have not been inventoried. Currently, only targeted weeds are monitored and resources are lacking for a Forestwide systematic survey. Untreated hawkweeds and Japanese knotweed sites are continuing to spread and new infestation sites are being detected.

The Mt. Hood National Forest cooperates with the Oregon Department of Agriculture, Wasco County and Hood River County Weed Departments, Bonneville Power Administration, and the Confederated Tribes of Warm Springs to conduct inventories and treat noxious weeds. Monitoring is conducted on weed control treatments, known infestations and new infestations. A total of 905 acres of noxious weeds were treated on the Forest in 2004.

Emphasis continues to be placed on the detection of satellite populations of non-native hawkweeds and Japanese knotweed that are continuing to spread on the Forest. Hawkweeds displace native forage species, which has an impact on the health of elk populations. Knapweed is well-entrenched and established across the eastside of the Forest but because of a combination of control efforts and its habitat preferences, it has not become widespread on the westside. Houndstongue continues to spread into new areas on Barlow but appears to be limited to this portion of the Forest. The Forest is currently preparing a site-specific invasive plant Environmental Impact Statement to treat 21 invasive plant species on approximately 11,000 gross acres using integrated pest management techniques.

Forest Insects and Diseases

Based on the 2004 Annual Aerial Detection Survey, western larch defoliation caused by a combination of larch casebearer, larch needle cast and larch needle blight was visible over approximately 2,700 acres. These defoliating agents will reduce radial growth and may lower the resistance of trees to other disturbance agents. Of greater significance is the amount of beetle-caused tree mortality detected, an estimated 186,000 trees over 36,000 acres. Mountain pine beetle in lodgepole pine was responsible for 90% of the tree mortality. About six times as many trees were killed in 2004 than in 2003 or 2002, the majority of those trees being lodgepole pine. The number of ponderosa pines killed in 2004 was about double that of 2003 (from 490 to 830). This is indicative of the second growth ponderosa pine stands on the eastside of the Forest which are at or above maximum stocking densities.

Hillslope Processes/Geologic Resources

The Forest Plan direction is to maintain hydrologic and physical balances to prevent reactivation or acceleration of large slow-moving earthflow areas. The desired conditions for these areas are forest stands of varying age classes, mostly greater than 8-inch diameter trees, with management activities designed to maintain long-term stability. Since monitoring began in 1991, no acceleration or initiation of earthflow movement has been measured or suspected as a result of timber harvest or road building activities on earthflow areas.

Vegetation Composition and Pattern

Seral stages (early, mid and late) and their distribution on the landscape provide information on the diversity and pattern of land cover types that provide wildlife habitat, filter and maintain water quality, and provide connectivity. With fire suppression and reduction in timber harvest, there has been a decline in early seral habitat. There is a concern that this will further limit forage availability for deer and elk populations on the Forest. Also, there is a concern that the increase in dense mid-seral stands on the eastside and backlog of stands needing some level of stocking control, such as precommercial thinning, will contribute to the potential for uncharacteristically severe and large disturbances such as wildfire, insects and disease. This concern extends to the plantations within Late Successional Reserves. It is recommended that a forestwide seral stage analysis and overall assessment of landscape conditions be completed.

Ecosystem Function, Structure, and Composition

Lincoln, Boxshall and Clark (1982)¹ define an ecosystem as: "A community of organisms and their physical environment interacting as an ecological unit" These criteria include physical environmental indicators that are related to soil, air and water characteristics. Physical environmental indicators are essential in tracking sustainable forest management because the maintenance of appropriate levels of soil oxygen, nutrients, moisture, and organic matter is key to the long-term productivity and resilience of forest ecosystems.

Productive Capacity

The objective for timber resources is to produce a continuing supply of wood products at sustainable levels consistent with other resource values and economic efficiency. Overall annual growth is more than 13 times harvest levels and annual mortality exceeds harvest by a factor of 8 to 1. On matrix lands only, growth is almost 3.7 times the rate of harvest. The trend for small diameter, dense stands continues to increase, leading to conditions susceptible to uncharacteristically severe and large disturbances such as wildfire, insect and disease.

¹ Lincoln, R.J., G.A. Boxshall, and P.F. Clark. 1982. A dictionary of ecology, evolution and systematics. Cambridge University Press, Cambridge, UK.

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Air Quality

Forest Plan goals for management of air resources are the existing character of air quality continues to improve from the past; management activities do not degrade Class I or II Wilderness and general forest standards; and the requirements of the State Implementation Plan for the Clean Air Act are met. Smoke from prescribed fires is the primary air quality concern from management activities. The goal of the Forest Plan is to reduce emissions 63% by the end of the first decade of the Plan, which is being achieved to date. The Mt. Hood National Forest remained in compliance throughout the monitoring period (October 2003 – September 2004).

Lichens are used by managers of the Mt. Hood National Forest in collaboration with the Pacific Northwest Region Air Program to monitor air pollution on the Forest. From 1994-1997, Mt. Hood botanists surveyed lichens and collected common species for chemical analysis. More than 75% of the Forest's air scores fell within the two best air quality categories. Less than 14% of plots had air scores in the fair range and 1.4% were rated as degraded with regard to air quality.

Water Quality

The Forest Plan goal is to protect and maintain the character and quality of water, providing for long-term sustained production resulting in favorable flows from the watersheds on the Forest. The purpose of monitoring is to assess Forest Service compliance with the Clean Water Act, to collect data on water quality trends, and to monitor the effectiveness of watershed restoration work. With continued implementation of Best Management Practices, watershed restoration, and the Northwest and Mt. Hood National Forest Plans, water quality and watershed conditions are expected to be maintained and in some areas show an improving trend.

In order to monitor condition and trends in water quality, permanent monitoring stations have been installed on the Clackamas River (Carter Bridge below Fish Creek), Alder Creek (Forest boundary), and Eagle Creek (fish hatchery). The Clackamas and Alder Creek watersheds serve as a municipal water supply. The water monitoring stations continuously monitor turbidity and flow depth.

The evaluation of the water quality data collected in the past several years indicates very good water quality at most of the monitoring sites, with the exception of several streams which do not meet current water temperature standards. In some cases, the elevated water temperatures are naturally high, while in others a past fire or timber harvest activity may be partially responsible. In 2004, various streams monitored forestwide did not meet one or more of the recently adopted (March 2, 2004) and more stringent Oregon Department of Environmental Quality (DEQ) water temperature standards even though these same streams, in most cases, provide very good water quality for fish.

The Federal Clean Water Act requires DEQ to develop a plan with goals and pollution control targets for improving water quality in the watersheds where water quality standards are not met. DEQ is doing this by establishing Total Maximum Daily Loads (TMDLs) for each pollutant entering the water. A TMDL describes the amount (load) of each pollutant a waterway can receive while maintaining compliance with water quality standards. TMDLs for water temperature have been completed by the DEQ and approved by the Environmental Protection Agency for the Sandy (March 14, 2005) and Hood River Basins (January 1, 2002).

The Mt. Hood National Forest will address water temperature TMDLs for any streams listed as “impaired” for water temperature by implementing the Northwest Forest Plan Temperature TMDL Implementation Strategy expected to be approved by DEQ in July 2005.

Soil Productivity

The Forest Plan goals are to protect, maintain and restore soil productivity, and to stabilize or restore damaged or disturbed soil areas. Monitoring results from the last several years suggest that progress is being made in reducing the number of harvest units where soil damage has exceeded the standards. Soil compaction damage related to timber harvest remains a concern on the Forest. On a forestwide basis, the extent of damage has decreased as timber harvest levels have declined since the beginning of the decade. Where stands have been entered for the first time, regardless of the silviculture prescription, designated skid trails have been effective in limiting soil resource impacts. Activities in stands where multiple harvest entries have been made, the cumulative impacts from these prior activities plus planned treatments have a much higher likelihood of exceeding the standard for protecting soil productivity.

Ecological Legacies

Ecological legacies, such as remnant snags, large down woody debris and caves are important components of the environment that persist through multiple phases and successional changes in an ecosystem. The Northwest Forest Plan provided standards and guidelines for snags and down woody material in Late Successional Reserves, corridor, and Wilderness Areas. Snags are retained throughout the harvested areas to meet the needs of primary cavity nesters. Current monitoring data indicate that snag retention levels are meeting standards and guidelines and are increasing over time. On harvest units, however, down and woody

materials are falling below current guidelines.

Population Function and Structure

Maintaining native species is a fundamental tenant of any conservation effort. These criteria look at maintenance of viable populations of native species, including the processes that define interactions between them and the occurrence of native species.

Population Viability

The National Forest Management Act requires that “...fish and wildlife habitat be managed to maintain viable populations of existing... species in the planning area”. To ensure this, the regulations direct that habitat must be provided to support a minimum number of reproductive individuals and habitat must be well distributed so that those individuals can interact with others within the planning area.

The actual utilization of habitat by various fish species is far below the overall productive capacity of rivers and streams on the Mt. Hood National Forest. The overall abundance of anadromous fish and bull trout are low in those streams and rivers monitored on the Mt. Hood National Forest. Salmon populations continue to show large fluctuations in size. The most extensive and complete data set on the Forest is in the Clackamas River. The ten-year data set has shown general trends of increasing numbers of steelhead smolts and decreasing numbers of Coho smolts. The distribution of bull trout, an Endangered Species Act listed fish, has expanded significantly over the past decade, yet abundance is still quite low. Fisheries biologists have developed a long-term monitoring plan for bull trout, which includes assessing impacts and interactions of small mouth bass and bull trout. Forest Service fish biologists continue to work in partnership with watershed councils across

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the Forest to assist in all fish recovery aspects at the whole river basin level.

Similar to fish habitat, there are some concerns with wildlife habitat. With reduction in regeneration harvest on the Forest and the suppression of fire, there is a concern that forage habitat for early seral dependent species such as deer and elk is declining. Forage is a limiting factor for much the Mt. Hood National Forest especially for winter range areas. It is inevitable that populations of deer and elk will decline. Road densities especially in key areas like winter range areas are barriers to connectivity. Other habitat concerns for wildlife include increasing pressure on unique or sensitive habitats from recreation uses, roads and grazing.

Species of Concern

The small populations of bald eagle and peregrine falcon appear to be stable. Very little monitoring efforts have been completed for spotted owls. An interagency demographic study sampling spotted owl populations across its range has replaced monitoring on individual Forests. To date, the demographic study reports a 2.8% decline per year in the spotted owl population for Oregon.

Threatened, Endangered and Sensitive (TES) Plants

Sensitive plant species associated with non-forest habitats such as meadows, grasslands, rock outcrops, and other natural openings continue to be vulnerable to impacts from invasive plant encroachment, livestock grazing, off-road vehicles, and recreational activities. Species that grow in forested habitats appear to be stable at this time and implemented mitigation measures for ground disturbing activities have been effective in maintaining the integrity of sensitive plant sites. In 2004, monitoring efforts were focused on non-forest habitat sensitive plant species. Data collected will be used to develop management

recommendations and/or conservation strategies for species that appear to be at risk.

Genetic Function

Genetic diversity is fundamental for populations of forest dwelling organisms to be able to adapt to changing environmental conditions. As such, genetic diversity underlies species as well as ecosystem diversity. The Forest Plan direction is to maintain genetic diversity of forest stands and to maintain forest health through genetic resiliency thus reducing impacts of disease, animals, insect, or climatic damage. This criterion can be used to address issues related to effects of forest management on genetic diversity. Current reforestation practices ensure appropriate species resulting genetic diversity are planted with additional species diversity resulting from natural regeneration.

Social Well-Being

Social criteria and indicators are based on social values and processes that drive social sustainability including the institutional and community structures, collaborative approaches that create a flow of information and knowledge, and the equitability of management. Therefore, social sustainability addresses values associated with how humans interact with natural systems and how we value the ecological systems (Hoekstra et al., 2000)².

² Hoekstra, T.W., Allen, T.F.H., Kay, J.J. & Tainter, J.A. (2000). Criteria and Indicators for Ecological and Social System Sustainability with System Management Objectives. In: S.J. Woodley, G. Alward, L. Iglesias Gutierrez, Hoekstra, T.W., B., Livingston, L., Loo, J., Skibicki, A.I., Williams, C. & Wright, P. CIFOR North American test of criteria and indicators of sustainable forestry, Volume 1, USDA-Forest Service. 1.

Collaborative Stewardship

Collaborative stewardship is the opportunity to have public values and beliefs heard, considered and incorporated into forest management activities, and the ability of publics to participate in management actions. Collaborative stewardship involves citizens in forest management activities, builds community and forest sector capacity, and integrates various kinds of expertise in the decision-making process. Collaboration between local, state, federal agencies, tribes and other organizations continue to provide the necessary foundation for work getting done on the Forest. Watershed councils, Resource Advisory Committees, non-profit organizations, and community work are examples of public involvement in natural resource management and the decision-making process.

One example is that the Forest is continuing to assist and support communities in the development of Community Wildfire Protection Plans. These community efforts provide the basis for on-going partnerships and future collaborative efforts to reduce wildland fire risk around homes and property.

The Mt. Hood Strategic Stewardship Framework

Mt. Hood National Forest's Strategic Stewardship Framework will establish direction and context for forest projects and programs by providing a business framework to use in decision making, and in building, strengthening and delivering relationships, internally and externally. This framework will provide the structure for citizen, non-governmental organizations, corporations, state and local governments, and other federal agencies to become engaged in the stewardship of the Forest. This will set the stage for public interest and vision for decisions to be made in the Land and Resource Management Plan.

Community Engagement Action Team

In 2003, the Forest established the Community Engagement Action Team and Board to help place emphasis on partnership development, to engage community resources in Forest activities, and to move the Forest towards a wider community base of participation.

Recreation Community of Interest

The Mt. Hood National Forest is continuing to develop new and enhanced relationships, understanding and trust with key recreation stakeholders that represent community of interests in and around Mt. Hood. These relationships will form the basis for forging a common vision and for finding ways to work together on projects of common interest. Currently, the effort is focused on building relationships with other public agencies, building internal support and capacity for expanded collaboration and partnerships, and developing effective tools to communicate with the public. All activities seek to find ways for partners with common interests to create and collaborate on projects formulated to meet their respective interests and attain shared vision.

In 2004, as part of a regional visitor planning process, the Mt. Hood National Forest, Bureau of Land Management and Clackamas County Tourism Development Council participated in a discussion of the visitor situation in Clackamas County including visitor destinations, investment opportunities for sustainable visitor growth, and creation of a seamless relationship among the Federal agencies and Clackamas County Tourism Development Council.

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Sandy River Basin Agreement

The Sandy River Basin Agreement Team is a consortium of state, federal and local government organizations and private conservation groups interested in the long-term ecological health and management of the Sandy River Basin. Their focus is to develop a strategy to maintain and recover salmonids listed under the Endangered Species Act in the Sandy River watershed. In 2002, Portland General Electric and the Sandy River Basin Agreement Team partners signed off on a settlement agreement to decommission Marmot and Little Sandy dams. In 2004, these partners identified geographic areas in the Sandy River Basin important for the persistence and restoration of salmon and steelhead populations known as the Anchor Habitats project from which restoration efforts will focus to restore salmon and steelhead habitat.

Social and Cultural Values

These indicators provide an overview of community values and needs, and the extent to which those values are integrated into forest management decisions and policy discussions. Cultural and spiritual connections to forests vary among local communities and are represented by social values that the local communities place on a forest's contribution to providing scenic landscapes, recreational activities, special places, and traditional and religious uses.

Recreational Values

The Forest Plan goal is to provide year-round dispersed and developed recreation opportunities. Towards those goals, the Mt. Hood National Forest is continuing work on some efforts to define the recreational needs of forest visitors.

The National Visitor Use Monitoring (NVUM) project, the most thorough and reliable quantitative study in the past two decades about recreation use in the Mt. Hood National Forest was conducted during 2003. The NVUM project was implemented as a response to the need to better understand the use, importance, and satisfaction with National Forest System recreation opportunities. In 2004, the NVUM Round 1 results revealed that the Mt. Hood National Forest ranks seventh in the nation according to the number of National Forest visits (4.076 million visits). For national, regional, and individual forest reports, visit the NVUM web site: <http://www.fs.fed.us/recreation/programs/nvum>.

Cultural Heritage

The Forest Plan goal is to protect and preserve ceded rights and privileges of Native American Indians to access and use the Forest for traditional and religious values including consultation of projects located on these accustomed areas. Another goal is to protect, maintain and enhance prehistoric and historic sites, buildings objects and antiquities of local, regional or national significance. During 2004, monitoring of heritage resources showed no adverse impacts from project activities. Consultation with the Confederated Tribes of the Warm Springs was completed on all projects located on tribal lands and usual and accustomed areas. Historic buildings and structures were maintained, stabilized and repaired. Historic preservation efforts during 2004 focused on Cloud Cap Inn and a preservation plan was developed for Cooper Spur Warming shelter. The Forest evaluated several historic resources in 2004 and determined the historic West Leg Road as eligible for inclusion in the National Register of Historic Places.

Economic Well-Being

The economic criteria and indicators were based on two fundamental principles of sustainable development:

- Maintain sufficient natural, built, and human/social capital through time to provide non-declining flows of the goods and services desired by society from the Forest.
- Distribute “the goods” and services so “equitable” access and benefit are achieved for all major stakeholders and for future generations.

Natural, Human and Built Capital

Access & Travel Management

The Mt. Hood National Forest continues to advance toward the goals of the Forest Service Roads Agenda. The size of our transportation system is decreasing. The Forest is maintaining or improving mainline road system while decommissioning or closing unneeded roads. The priority in road decommissioning continues to be decommissioning roads in unstable geological areas or roads with unacceptable environmental impacts. Due to the high cost of road decommissioning, The Forest focused efforts on storm proofing and closing roads, rather than decommissioning a few roads at a high cost.

Campgrounds

Visitation and utilization data were reported by permit holders for concessionaire managed campgrounds in 2004. Occupancy in 2004 was virtually the same as in 2003, and considerably below 2002 levels. Like similar older recreation complexes throughout the National Forest System, the campgrounds on the Mt. Hood fill a social and economic niche that many long-time

visitors to the Forest appreciate. That user group, however, is not expanding as originally projected, and may be shrinking. Based on current and predicted use patterns and interest, Mt. Hood National Forest has more developed camping capacity than demand, and an inventory adjustment will probably be needed in the near future.

Flows of Goods and Services

Timber

Sustaining a predictable supply of forest products to the region’s economic system through silvicultural treatments such as thinning and regeneration harvesting is interrelated to the ecological system. Thinning operations maintain healthy forests, reduce fire hazard/fuel build up, improve wildlife habitat, and restore riparian habitat. Regeneration harvesting restores forests that have high levels of disease and/or mortality to younger healthy forest and at the same time provide forage for wildlife species dependant on early successional vegetation. These operations are also interrelated to the social system, provide jobs at both the local and regional scales, and reduce the demand for imported forest products.

In Fiscal Year 2004, the budget allocation scheduled the Forest to offer for sale approximately 19.6 million board feet (MMBF) (31% of probable sale quantity [PSQ]). The Forest successfully offered for sale approximately 5.3 MMBF (8% of PSQ). The volume offered was low because two timber sales were delayed due to litigation, and two other decisions were remanded to the Forest. The Forest made significant progress on one commercial thinning environmental assessment for timber sales to be offered in fiscal year 2005. The Forest also implemented a small fire salvage sale using one of the newer authorities from the Healthy Forest Initiative.

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The Forest is striving to provide a “predictable” level of forest products to the regional economic systems. Nationally and regionally, the Forest Service is addressing planning issues that contribute to an unpredictable supply of forest products. Locally, the Forest is addressing planning issues that affect the economic viability of timber sales, which results in sales with no interested bidders. In fiscal years 2005 to 2007, the Forest expects to provide a diverse mix of species, sizes and quality. The majority will be from smaller sized trees less than 28 inches in diameter. The Mt. Hood National Forest continues to plan, prepare and administer timber sales using some of the most environmentally restrictive land management guidelines. The Forest is striving to set a global example for sustainable forest management.

Range

The Forest Plan goal is to provide quality forage conditions for commercial domestic livestock and to prevent unacceptable damage to other resource values. Approximately 15% of the total acres on the Mt. Hood National Forest are in grazing allotments. Issuing grazing permits to local ranchers adds an element of economic viability to ranch operations, while at the same time, the private ranch lands provides essential big game winter habitat which is in critical short supply. In 2004, actual livestock use was 3,382 head months out of a total of 3,684 head months under permit. Monitoring of existing vegetation conditions and long-term trends are in place on all allotments using a photo trend methodology. These measurements indicate that overall range condition is stable or improving and moving towards Forest Plan objectives. Monitoring of riparian areas, however, show impacts from over utilization of forage and heavy recreation use in these areas. There are also concerns of continuing livestock pressure on riparian areas due to loss of transitory range, a result of significant decrease in harvest acres.

Minerals

The Forest Plan goal is to facilitate exploration and development of energy and mineral resources while maintaining compatibility with other resource values. The Mt. Hood National Forest continues to be able to supply high quality rock products to the general public, other government agencies, and for their own use. The continuing demand for “landscape rock” are depleting sources of easy accessible loose rock material on the Forest. In 2004, there were 10 projects utilizing 13,000 cubic yards of salable (common variety) mineral material by the Forest and 396 projects utilizing 774 cubic yards of salable mineral materials by the public.

Conclusion

In conclusion, based on overall forest condition, review of the monitoring information and ongoing management activities, the Mt. Hood Forest Plan, as amended by the Northwest Forest Plan of 1994, is sufficient to guide management of the Forest over the next year. Minor non-significant amendments will be made as the need arises. The Mt. Hood Forest Plan is currently scheduled for revision beginning in 2009 following the 2004 Planning Rules.

Key Management Issues

The following represent key management issues of concern for the Mt. Hood National Forest as perceived from the evaluation of the monitoring data. The intention is to elevate these issues to the Forest Leadership Team in an effort to receive consideration in the budget and program of work processes. These issues highlight priority for sustainability and influences across ecological, economic and social systems that are relevant to Mt. Hood National Forest.

Impacts Related to the Shifts in Land Management and Resource Use on the Mt. Hood National Forest

Increasing population growth and urbanization, as well as changing demographics with new perspectives, lifestyles and values have influenced resource use and impacts. Over the last decade, a shift in resource use and associated impacts has become evident with the growing importance of recreation and decline in timber harvest. Additionally, a growing concern about biodiversity, species management and protection, and municipal water use. This affects the Forest's capacity to provide goods and services, and shifts environmental impacts. Examples include:

- With the decline of timber harvest, less than 1% of the land base is being treated to meet various objectives. As a result, the Forest is unable to provide a predictable supply of timber or forest products (Christmas trees, firewood, and high quality boughs), so transitory range and forage habitat are becoming limited. Also, funds generated by timber sales

for habitat improvement, road maintenance and construction projects have substantially declined.

- With the increase in recreational demands, the Forest is finding resource and social impacts from dispersed recreational use (such as off-highway vehicles, target shooting, and garbage dumping) particularly on the westside Wildland Urban Interface. This is resulting in wildlife harassment, soil erosion and impacts to water quality. Conflicts and impacts to riparian areas and along lakeshores are also increasing with changing recreation pressures. Also, current recreational user preferences are not meshing with the distribution and configuration of existing developed recreation facilities.

Such shifts in resource use require the Forest to explore new strategies, opportunities and funding sources to address these changes and to continue to provide for customer needs while maintaining healthy ecological conditions. Management decisions need to incorporate social, economic and ecological considerations.

Role of the Mt. Hood on the Larger Landscape

The Mt. Hood National Forest provides unique properties (like the mountain) and contributes to species habitat in the larger landscape which spans multiple ownerships and jurisdictions. Examples include:

- Given the predominance of federal lands in the river basins of the Mt. Hood National Forest, the role of these lands is critical to providing the "anchor" habitat for fish, wildlife and unique plant populations as well as protecting water quality and long-term production and flows from the watersheds. Management focus is shifting towards a larger system assessments.

- Increased urbanization and growing recreational demands on the Mt. Hood National Forest require a new model for collaborative discussions to foster relationships, understanding and trust to help form the basis for addressing recreational conflicts, forge a common vision, and develop partnerships. Mt. Hood National Forest's unique natural properties, landscape, and proximity to the Portland metro area contribute to meeting the regional and local recreational demands.

This requires the Forest to shift into larger system assessments working partnerships, collaborative approaches, management decisions with long-term perspectives and gathering data to support assessments of ecological conditions.

Fire

The changes in vegetative structure, species composition, and accumulated fuels have predisposed areas, especially on the eastside of the Mt. Hood National Forest, to insect infestation, disease and high intensity wildfires that could threaten nearby communities, watershed values and key ecological components. The key focus must be on reducing wildfire risk, and restoring and maintaining healthy ecological conditions on high priority areas. This includes management of insects, disease, and invasive species, and restoration of biological diversity with a primary focus on fuel reduction. Priority areas for restoration work should include those areas where communities and ecosystems (ecologically sensitive areas) are at risk. This would require the Forest to continue to improve its ability to assess and actively address fuel conditions, fire hazards, potential fire effects, insect and disease risk, and Forest Service's capabilities and resources to implement work.

Invasive Plants

Approximately 3,000 acres have been documented as infested with invasive plants on the Mt. Hood National Forest. This vastly underestimates the total area because only targeted weeds are monitored and the Forest does not have the financial resources to conduct a thorough survey. Invasive (non-native) species are recognized by the Chief of the Forest Service as one of the four threats to National Forest System lands, as well as neighboring private, state and Tribal lands across all ecosystems. Invasives pose unsustainable social, economic, and ecological impacts. Scientists estimate that invasive plants contribute to the decline of up to half of all endangered species and are the single greatest cause of loss of biodiversity in the United States, second only to loss of habitat. To build our understanding and awareness of the extent of this growing threat on the Mt. Hood National Forest, would require improving effectiveness through data management capabilities, expanding partnerships, increasing applied technology and research transfer, improving collaboration and coordination both internally and externally, increasing budgets, and emphasizing prevention measures across all agency activities.

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Table S-1. Summary Comparison Chart (by Fiscal Year)

Element	FY94	FY95	FY96	FY97	FY98	FY99	FY00	FY01	FY02	FY03	FY04	Recommendations/ Comments
♦ Fire Management												
Human caused fires	55	29	43	27	32	45	40	54	41	58	24	Continue monitoring, management direction achieved.
Natural occurring	11	19	2	9	38	22	1	24	14	11	10	
Total fires suppressed	66	48	45	36	70	67	41	78	55	69	34	
♦ Air Quality												
Acres treated by prescribed fire	2,809	1,962	2,448	1,082	1,643	2,161	2,258	1,563	650	1,574	1,647	Continue monitoring, management direction achieved.
♦ Geologic Resources												
Created openings on mapped earthflows	0	7	19	7	0	3	11	8	1	0	0	Continue monitoring.
Created openings on mapped landslides	0	3	2	0	0	1	0	0	2	0	0	
♦ Mineral Resources												
Mineral material used by other agencies (cy)	5,000	82,000	191,850	25,500	216,700	76,200	85,000	63,500	0	0	0	Complete development plans for common variety sources.
Mineral material used by MTH(cy)	9,000	12,550	13,300	151,800	52,900	56,800	20,375	17,270	7,400	9,400	13,000	Find additional source of loose material.
Mineral material sold to public(cy)	900	1,400	1,600	865	1,160	350	319	248	474	435	774	
♦ Transportation/Roads												
Miles constructed/ Forest Plan projection	7.7/16.6	2.4/16.6	.6/16.6	2.3/16.6	5/16.6	4.6/16.5	0/16.5	0/16.5	1.5/16.5	1.5	No report done in 2004	Adjust Forest Plan.
Miles reconstructed/ Forest Plan projection	15.5/ 91.5	15.4/ 91.5	31.9/ 91.5	111.4/ 91.5	35.7/ 91.5	39.5/ 91.5	28.3/ 91.5	3.4/ 91.5	50/ 91.5	-		Adjust Forest Plan.
Road miles obliterated	47.4	29.4	38.9	84.2	27	89	18	4	2.8	18		
♦ Timber Resources												
% timber offered of Forest Plan Allowable Sale Quantity	14	22	34	39	35	25	0	4.7	15.6	21	3	Initiate Forest Plan adjustment.
% of PSQ target offered for sale	39/ 27.3 mmbf	106/ 41.4 mmbf	122/ 63.6 mmbf	114/ 74.0 mmbf	104/ 66.6 mmbf	73/ 46.5 mmbf	0	13.8/ 8.8 mmbf	46.1/ 29.5	40/ 25.4	8/5.3 mmbf	
Silviculture acres treated (harvest methods)	1,637	2,030	1,685	1,948	3,344	3,044	3,245	808	620	1,029	917	Continue monitoring.
Silviculture activities (Ac.) (planting, fertilizer, etc.)	7,193	12,361	9,852	6,172	7,589	5,282	3,750	7,010	6,659	2,094	1,924	Continue monitoring.
♦ Recreation Resources												
Miles trail constructed/ projections	5/6.6	0/6.6	0/6.6	0/6.6	0/6.6	0/6.6	0/6.6	0/6.6	0/6.6	-	-	Continue monitoring.
Miles trail re-constructed/ projections	12/30.5	14/30.5	21/30.5	14.8/ 30.5	14.8	63/30.5	12.7/ 30.5		2.2/30.5	-	-	Continue monitoring.
♦ Financial Resources												
Full Plan implement budget/actual expense	65.3MM 32.7MM \$	65.3MM 31.7MM \$	65.3MM 30.4MM \$	65.3MM 38.2MM \$	65.3MM 33.7MM \$	65.3 39/5 MM \$	65.3 24.7 MM \$	63.5 25.6 MM \$	63.5 23.2 MM \$	63.5 17.97 MM \$	65.3MM 19.4MM \$	