Policies

The *Policy for Sustainable Forests* is composed of multiple policies, which together provide broad direction to the Washington State Department of Natural Resources (DNR) to effectively and sustainably manage the forested state trust lands in its care.

On the pages that follow, individual policies are grouped into four major policy categories. Each category addresses a key aspect of sustainable forest management:

- Economic Performance
- Forest Ecosystem Health and Productivity
- Social and Cultural Benefits
- Implementation

Within each category, individual policy subject areas are introduced with a discussion, followed by the policy statements. The policy on any given subject may have multiple parts.

Although the individual policies are separated into categories and subject areas, taken collectively they create DNR's overarching policy to support healthy forest ecosystems to provide a perpetual flow of economic, ecological and social benefits from forested state trust lands.

Economic Performance

The Economic Performance category contains policies that, consistent with the other policies in this document, provide the broad context for DNR's economic management of forested state trust lands and the production of sustainable revenue for each trust beneficiary.

These policies address subjects related to revenue production and financial performance, including activities and commodities to be considered in producing revenue from forested state trust lands, and lands that are deferred from harvest activities:

- Financial Diversification
- Financial Assumptions
- Definition of Sustainability for the Sustainable Harvest Calculation
- Recalculation of the Sustainable Harvest Level
- Harvest Deferral Designations

Financial Diversification

DISCUSSION

Diversification is an important fiduciary consideration for meeting DNR's trust obligations. Diversification allows DNR to take advantage of a variety of opportunities to produce revenue for the trusts, and it protects the trusts from catastrophic losses, should markets or physical conditions significantly constrain a revenue source.

In its *Asset Stewardship Plan,* DNR addresses diversification among trust land asset classes (forestry, agriculture, commercial real estate) to improve total economic performance. Within a single asset class, diversification can improve the economic performance of that class and as a result contribute to improved performance of the total trust holdings. Financial diversification within the forest asset class includes income from the marketing and sales of a variety of forest products and from non-forest products or services. For example, on some forested trust lands, additional revenue can be captured through leasing the land for uses such as energy generation and communication sites.

Some of the ecological and social benefits from the forested trust lands may hold opportunities for immediate or future revenue production and thus, for improving the overall financial performance of the lands. By anticipating future demand for ecological and social benefits, DNR can be in a better position to take advantage of that demand on behalf of the trusts. Examples of such benefits include recreation, tourism, water quantity and quality, and carbon sequestration.

There are opportunities for DNR to expand its national and international marketing efforts. By evaluating different marketing and sales strategies, DNR may find ways to improve the overall financial performance of the forested trust lands. Research

related to economic and financial trends may identify partnerships or additional opportunities to improve financial performance through diversification.

Anticipating future demand, the department will prudently pursue economic opportunities related to ecological and social benefits that flow from forested state trust lands.

POLICY ON FINANCIAL DIVERSIFICATION

- **The department will identify and offer a mix of forest products to take advantage of existing markets and market value fluctuations.**
- **The department will evaluate and capture financial opportunities through production, marketing and sales of both timber and non-timber related commodities and uses.**
- **The department will actively expand its efforts to identify, develop and target new national and international markets for forest products and seek opportunities to creatively market and sell forest products to improve overall financial performance.**
- **Anticipating future demand, the department will prudently pursue economic opportunities related to ecological and social benefits that flow from forested state trust lands, to improve the net revenue from forestlands.**
- **To guide decisions about trust asset management and allocation and to identify additional diversification opportunities, the department will:**
  - **Continually evaluate land use patterns and changing land values; and**
  - **Pursue additional forecasting services and research related to economic and financial trends.**

Financial Assumptions

DISCUSSION

Forest investments are based on various financial assumptions. Assumptions about prices, costs, interest rates and other financial factors reflect national and regional economic conditions, as well as anticipated changes in forest product markets. DNR makes certain assumptions as it uses various investment models to guide decisions related to silvicultural investments, capital investments (such as roads), forestland investments, and others.

DNR relies primarily on net present value as the most comprehensive and direct way to measure financial returns to the trusts and evaluate investments. However, measures such as internal rate of return and cost-benefit ratio may be best suited for some specific situations.

The nature and timeliness of reviews and updates of financial assumptions are critical to making sound investment decisions on behalf of each trust. In addition, all DNR upland programs benefit from a periodic department review and, when appropriate, adjustment of basic financial assumptions. Such an approach provides better consistency between the various upland programs and financial decision-making on behalf of each trust.

POLICY ON FINANCIAL ASSUMPTIONS

- **At least once per year, the department will review financial assumptions that affect forest management and will make adjustments when general economic situations dictate.**
- **The department will utilize a comprehensive approach to review and update the financial assumptions used in forest management decisions.**

In order to take advantage of shorter term operational or market opportunities, the harvest level for any year within the planning decade may fluctuate up to 25 percent.

Definition of Sustainability for the Sustainable Harvest Calculation

DISCUSSION

State law defines sustained yield as "management of the forest to provide harvesting on a continuing basis without major prolonged curtailment or cessation of harvest" (RCW 79.10.310). A common law duty of the state as trustee is to not favor either present or future trust beneficiaries over each other. Sustained yield management helps accomplish this duty.

Within that broad statutory direction, various interpretations of sustained yield management are possible. Differences in interpretation may relate to the size of areas subject to separate calculations of sustainable yield of timber, for example, either the state trust ownership as a whole or smaller areas; the degree of variability of timber harvest over time; and the aspect of forest management to be the primary focus of sustainability, such as area or volume of timber harvested or retained, or revenue earned.

In the past, DNR has divided the forestland base into separate sustainable harvest units based on county boundaries, DNR's administrative regions, and several separately treated areas. In addition, DNR has set the variability of harvest over time based on a non-declining even-flow objective. DNR has calculated sustainable yield based on timber volume. The Board of Natural Resources has expressed a desire for a more flexible system as the basis for the sustainable harvest calculation.

(Lands formerly known as Forest Board Transfer and Forest Board Purchase are now defined in RCW 79.02.010(10) as "State Forest Lands." For purposes of this policy, former Forest Board Transfer lands will be called "State Forest Transfer Lands," and former Forest Board Purchase Lands will be called "State Forest Purchase Lands".)

POLICY ON DEFINITION OF SUSTAINABILITY FOR THE SUSTAINABLE HARVEST CALCULATION

- **The department will calculate, and the Board of Natural Resources will adopt, a separate long-term decadal sustainable harvest level for each of several distinct sustainable harvest units. The department will express the sustainable harvest level for a given unit as mean annual timber volume for a planning decade.**
- **In Western Washington, the sustainable harvest units (a total of 20) are as follows:**
  - **The Olympic Experimental State Forest, regardless of trust.**
  - **The Capitol State Forest, regardless of trust.**
  - **Each of the 17 county beneficiaries of State Forest Transfer lands separately (excluding those lands in the Olympic Experimental State Forest or Capitol State Forest).**
  - **All of the federally granted trusts and State Forest Purchase lands in Western Washington together, with the exception of the Olympic Experimental State Forest and Capitol State Forest.**
- **For Eastern Washington, sustainable harvest units will be determined as part of the Eastern Washington sustainable harvest calculation.**
- **In order to ensure intergenerational equity among beneficiaries, within each sustainable harvest unit, the department shall calculate an estimated multi-decade harvest level such that the mean annual timber volume for any decade should not vary up or down more than 25 percent from the level of the preceding decade, except that all State Forest Transfer lands outside Capital State Forest and Olympic Experimental State Forest shall be treated as a single sustainable harvest unit for purposes of achieving the allowable variation between decadal timber harvest levels.**
- **In order to take advantage of shorter term operational or market opportunities, the harvest level for any year within the planning decade may fluctuate up to 25 percent plus or minus from the mean annual harvest level adopted by the Board of Natural Resources, as long as the decadal mean is sustained over the decade.**
- **The department will analyze the financial characteristics of forest stands in order to optimize the economic value of forest stands and timber production over time, in calculating the sustainable harvest level, in planning and scheduling timber harvests, in making investments in forest growth, and in searching for the least-cost methods of achieving other forest management objectives.**

Recalculation of the Sustainable Harvest Level

DISCUSSION

State law requires that DNR shall manage the state-owned lands under its jurisdiction, which are primarily valuable for the purpose of growing forest crops on a sustained yield basis. “To this end, the Department shall periodically adjust the acreages designated for inclusion in the sustained yield management program and calculate a sustainable harvest level” (RCW 79.10.320). State law also defines sustainable harvest level as, “Sustainable harvest level means the volume of timber

scheduled for sale from state-owned lands during a planning decade as calculated by the department and approved by the board" (RCW 79.10.300(5)).

The legislature envisioned that the sustainable harvest level is likely to need adjustment from time to time, based on the quantity, quality, growth, and availability of the timber resource on state lands. At the time the statute was enacted, the suitable time period was thought to be one decade, with the average annual sustainable harvest level remaining constant during the decade.

Currently, the factors affecting a stable long-term sustainable harvest calculation remain dynamic. Regulatory requirements are in flux, and information about the resource base continues to improve. In addition, new more powerful and flexible computer models have emerged, making it feasible to adjust the harvest level as circumstances change. At the same time, the fundamental trust obligations and statutory requirements continue to be the foundation of policy.

POLICY ON RECALCULATION OF THE SUSTAINABLE HARVEST LEVEL

- **The department, with Board of Natural Resources approval, will recalculate the statewide sustainable harvest level, for Board of Natural Resources adoption no less frequently than every ten years.**
- **The department will adjust the calculation and recommend adoption by the Board of Natural Resources when the department determines changing circumstances within the planning decade suggest that an adjusted harvest level would be prudent. Such circumstances may include major changes in legal requirements, significant new policy direction from the Board of Natural Resources, new information about the resource base available for harvest, or changes in technology.**

Harvest Deferral Designations

DISCUSSION

Forested state trust lands are managed to meet multiple objectives that are economic, ecological or social in nature and are set by federal and state law, including DNR's *Habitat Conservation Plan* (HCP) and Board of Natural Resources policy. All forested state trust lands contribute or have the potential to contribute to one or more of these objectives. The model used to calculate the sustainable harvest level analyzes the capability of forestlands and associated forest stands to meet objectives and assigns silvicultural regimes across broad landscapes to meet these objectives over space and time.

Some of these lands play an important role in meeting ecological objectives in their current condition and are not available for harvest during the next decade or longer. These lands are designated as either short-term or long-term deferrals in the sustainable harvest calculation and, while not currently available for harvest, are included in the calculation. For example, many old-growth stands help meet older-forest targets for HCP planning units, but are not available for harvest. Other examples of lands in this category are recreation sites and gene pool reserves. The

designation of short-term or long-term deferrals is subject to change as new information becomes available.

POLICY ON HARVEST DEFERRAL DESIGNATIONS

- **The department will designate lands and timber resources that are unavailable for harvest as either short-term or long-term deferrals.**

Forest Ecosystem Health and Productivity

The Forest Ecosystem Health and Productivity category contains policies that provide the broad context for DNR's management and maintenance of the ecological health of forested state trust lands. These policies address subjects related to elements of the forest ecosystem that are important to ecological objectives and long-term health and productivity of trust assets:

- Forest Health
- Catastrophic Loss Prevention
- Old-Growth Stands in Western Washington
- Wildlife Habitat
- Watershed Systems
- Riparian Conservation
- Special Ecological Features
- Genetic Resource

The department's forest health priority is the development of landscape strategies at an appropriate scale to address the forest health issues of overstocking and/or inappropriate species composition.

Forest Health

DISCUSSION

A functioning, healthy forest ecosystem has many components, one of which is the forest stand itself. Maintaining healthy stand conditions keeps the forests productive. Productive, healthy forests directly provide many economic, ecological, and social benefits to each trust and to all the people of Washington.

What constitutes a healthy forest varies for different locations within the state. Ecoregions, associated plant communities, and natural vegetative series are the basis for identifying ecologically appropriate species and stocking levels.

The two major components of maintaining forest health are:

- Prevention of damage, by maintaining ecologically appropriate species composition/age and stocking levels; and
- Treatment of insects, noxious weeds, disease, and animal damage, when their impacts are excessive.

A number of silvicultural activities, including prescribed fire, can be used to keep forests healthy and resistant to insects, disease, catastrophic fire and the effects of drought and climate changes. Emphasizing management of species composition and stocking levels recognizes the effectiveness of treating the underlying causes

of forest health problems in addition to the symptoms. It is also important to treat localized outbreaks of insects, diseases, noxious plants and animal damage when necessary to protect trust assets.

Serious forest health issues impact multiple ownerships and agencies. Therefore, to effectively address forest health issues, it is important to work with other landowners, agencies and the scientific community.

POLICY ON FOREST HEALTH

- **The department's forest health priority is the development of landscape strategies at an appropriate scale to address the forest health issues of overstocking and/or inappropriate species composition. Using vegetative series or other appropriate guidelines, the goal is to adjust stand composition to favor species best adapted to the site.**
- **The department will incorporate cost-effective forest health practices into the management of forested state trust lands to reduce or prevent significant forest resource losses from insects, disease, animals, noxious weeds and other similar threats to trust assets.**
- **The department will work closely with the scientific community, other agencies and other landowners to effectively address forest health issues.**

Catastrophic Loss Prevention

DISCUSSION

One of DNR's primary fiduciary responsibilities is to protect trust assets from catastrophic loss due to wildfire or other factors such as wind, insects, and disease. Prevention of catastrophic loss helps protect the economic, ecological, and social features of forested state trust lands and assures progress toward meeting trust objectives.

Preventing catastrophic losses involves identifying, planning, and implementing prevention efforts. Wildfire prevention involves fuel reduction on forested state trust lands. To accomplish this, DNR may invest management funds or seek other funding from state and federal programs.

Sometimes, conducting such prevention efforts with adjacent landowners and in coordination with fire prevention programs can help minimize impacts on forested state trust lands.

Overall, healthier forests are less likely to experience catastrophic losses.

POLICY ON CATASTROPHIC LOSS PREVENTION

- **The department will incorporate strategies to prevent catastrophic loss into its management of forested state trust lands. These strategies include development of fire-resistant stands.**
- **When in the best interest of the trust(s), forest stands that have been materially damaged by fire, wind, insects or disease will be salvaged. Such salvage will be conducted in compliance with state and federal law, contractual obligations, and Board of Natural Resources policy.**

- **The department will coordinate with local, state and federal fire prevention programs; the scientific community; other agencies; and other landowners to reduce the risk of forest resource loss from catastrophic events.**

The department will defer from harvest old-growth stands…to help meet DNR's Habitat Conservation Plan and regulatory requirements, older-forest targets, and social/cultural values.

Old-Growth Stands in Western Washington

DISCUSSION

From a historic perspective, old-growth forests are a result of a natural pre-European settlement origin (prior to year 1850) and of having been left unmanaged and relatively undisturbed by humans for hundreds of years. Consequently, unlike other structurally complex stands, old-growth stands in Western Washington are not a result of, nor will they result from, active management. From a scientific perspective, old-growth stands in Western Washington are characterized by the highest levels of structural complexity including a diversity of sizes and conditions of live trees, snags and logs. Therefore, for the purposes of this policy, old-growth stands on forested state trust lands are defined as follows:

- Stands in the most structurally complex stage of stand development, sometimes referred to as the fully functional stage of stand development; and
- A stand with a natural origin date prior to 1850, generally considered the start of European settlement in the Pacific Northwest.

Both criteria must be met for a stand to be identified as old growth for the purposes of this policy.

The 2004 Washington State Legislature directed DNR to inventory old-growth forest stands on state lands as defined by a panel of scientists. By applying an old-growth habitat indexing method to DNR's Forest Resource Inventory System, potential old-growth stands were identified (*Definition and Inventory of Old Growth Forests on DNR-Managed State Lands*, July 2005). The minimum mapping unit size of the Forest Resource Inventory System is five acres. Consequently, for the purposes of this inventory effort and this policy, five acres is the minimum stand size for old growth.

Because old-growth stands are the most structurally complex, they can help DNR meet regulatory requirements and can make important ecological contributions to meeting key elements of DNR's *Habitat Conservation Plan* (HCP), particularly older-forest targets and requirements related to wildlife and riparian habitats (see discussion of HCP older-forest targets in the General Silvicultural Strategy policy subject area). The majority of potential old-growth stands recently identified on DNR-managed lands are deferred from harvest to meet HCP and regulatory requirements related to northern spotted owl, marbled murrelet, and riparian habitat.

Socially and culturally, old-growth stands are often valued and revered as representatives of what used to exist. When in the best interest of the trust involved, old-growth stands will be transferred out of trust status if the trust receives full market value for the lands transferred. Such transfers can occur at any time and in such a way that these old-growth stands can continue to contribute to HCP habitat requirements and older-forest targets, even when no longer in trust status.

The conservation strategies for the Olympic Experimental State Forest HCP planning unit are somewhat different from the strategies for the other five Western Washington HCP planning units. The goal in the Olympic Experimental State Forest is to use management, research and monitoring to build new knowledge about integrating commodity production and conservation. Consequently, operations, including harvest, in some old-growth stands will occur in the Olympic Experimental State Forest to meet this goal.

In conifer forests of Western Washington, single, very large diameter, structurally unique trees are important habitat elements. These trees, sometimes referred to as old-growth remnants, are characterized by very large diameters (60 to 90 inches or more, depending on the species) and possess large, strong limbs; open crowns; large, hollow trunks; broken tops and limbs; and deeply furrowed bark. They are the focus for retention to meet HCP requirements for very large diameter, structurally unique trees.

POLICY ON OLD-GROWTH STANDS IN WESTERN WASHINGTON

- **The department will defer from harvest old-growth stands (stands 5 acres and larger that originated naturally, before the year 1850), in order to help meet DNR's *Habitat Conservation Plan* and regulatory requirements, older-forest targets, and social/cultural values. This policy is subject to the following conditions:**
  - **The Board of Natural Resources will be notified of any exceptions to this policy for operational considerations; and**
  - **The department will retain known very large diameter, structurally unique trees to meet DNR's *Habitat Conservation Plan* requirements for large, structurally unique trees. The department will notify the Board of Natural Resources of proposed harvests that may involve removals of very large diameter, structurally unique trees.**
- **Inside the Olympic Experimental State Forest, the department may conduct operations in old-growth stands consistent with the requirements of DNR's *Habitat Conservation Plan* to meet the research objectives of the Olympic Experimental State Forest.**

- **When in the best interest of the trust(s), the department will actively seek to transfer old-growth stands and areas containing very large diameter trees of high social or cultural significance out of trust status, when full market value compensation to the trust(s) is secured. In seeking to transfer such stands out of trust status, the department will immediately prioritize old-growth stands that are not subject to protection under DNR's *Habitat Conservation Plan* or other applicable regulations.**

DEFINITION AND IDENTIFICATION OF OLD-GROWTH STANDS IN EASTERN WASHINGTON

In Eastern Washington, definition and identification of old-growth stands is difficult due to several reasons. Fire exclusion and selective logging of large pines have changed the structure of many old-growth stands, therefore, there are few places where fire-dependent old-growth types exist and can be studied. In addition, relatively little research has gone into characterizing old growth in these forests, so relevant information is limited. Finally, DNR's forest inventory information for Eastern Washington needs to be improved to help identify potential old-growth stands.

As a result of legislation in 2006, DNR is conducting an inventory of old-growth forest located on state lands east of the crest of the Cascade Mountains. This two-phased project is to be completed by December 15, 2007. This information will be used in the Eastern Washington sustainable harvest calculation. Until that time, DNR is retaining forest structures that may be important elements of historic old-growth forests. Along the east slope of the Cascade Range, in the range of the northern spotted owl, DNR is maintaining and developing submature and mature owl habitat that is expected to develop into older-forest stands. In the Klickitat HCP planning unit, DNR is retaining an average of 6 to 12 trees per acre of the largest diameter classes as part of its forest health and HCP strategies. DNR is also developing late successional forest as part of its *Loomis State Forest Final Landscape Plan* (June 1996). In addition, DNR retains large diameter trees as part of its land management activities across all of Eastern Washington.

Policy may be developed for Eastern Washington older forests and old-growth stands as part of an Eastern Washington sustainable harvest calculation.

Wildlife Habitat

DISCUSSION

An important trust objective is the conservation of upland, riparian, and aquatic wildlife species, including fish and their habitats, species listed as threatened and endangered, and non-listed species.

DNR's *Habitat Conservation Plan* (HCP) enables DNR to meet the requirements of the federal Endangered Species Act by setting wildlife habitat objectives for 1.6 million of the 2.1 million acres of forested state trust lands. The HCP is a long-term management plan to conserve not only currently threatened and endangered species, but also to help avoid the future listing of additional species. In addition to

providing habitat for identified listed and unlisted species, implementation of the HCP, with a focus on ecosystem sustainability and the conservation of biodiversity across forested landscapes, is also expected to provide habitat conditions that, over time, have the capacity to sustain native wildlife populations and communities.

Wildlife objectives for areas outside the HCP planning units are set through a combination of federal and state laws, voluntary agreements with other agencies and organizations, and Board of Natural Resources policy. An example of these efforts includes the development of a *Lynx Habitat Management Plan* for forested state trust lands in northeast Washington.

Moreover, DNR has adopted a number of land management strategies over the past ten years that incorporate the importance of biodiversity to ecosystem integrity. DNR is also an active member of the State of Washington Biodiversity Council that was created in 2004 to develop and promote more effective ways of conserving Washington's biodiversity.

POLICY ON WILDLIFE HABITAT

- **The department's conservation efforts will focus on biodiversity, which is recognized as the fundamental guiding principle for sustainable forest management.**
- **The department will meet the requirements of federal and state laws and contractual requirements that protect endangered, threatened and sensitive species and their habitats.**
- **When consistent with trust objectives, the department intends to voluntarily participate with federal and state agencies and other organizations or governments, in additional efforts to protect state and federal listed threatened and endangered species, recover and restore their habitat, and participate in initiatives related to non-listed species and habitats.**

DNR addresses potential influences, including cumulative impacts, of forest management on watershed systems in several ways…

Watershed Systems

DISCUSSION

Forested watersheds managed by DNR are an important resource for the state of Washington. A forested watershed is a forested drainage basin that contributes water, organic matter, dissolved nutrients and sediments to a stream, river, lake or ocean.

Forested watersheds vary in size–from small stream sub-basins as small as 1,000 acres to Water Resource Inventory Areas hundreds of thousands of acres in size. DNR's *Habitat Conservation Plan* (HCP) planning units contain multiple Water Resource Inventory Areas. Forested watersheds are sources for municipal water supplies, irrigation, and stream and subsurface flows throughout the state. They provide quality habitat for aquatic organisms, and also recreational opportunities.

In forested watersheds, the condition of the forest has a significant influence on the quality and quantity of the resource. The nature of the forest cover can also influence the timing and magnitude of peak water flows.

DNR addresses potential influences, including cumulative impacts, of forest management on watershed systems in several ways:

- In Western Washington, the HCP includes a riparian management strategy that prescribes methods to protect water quality and, to some extent, moderates influences on stream hydrographs;
- DNR also generally limits the size of even-aged harvest units to 100 acres. Even-aged harvest systems produce stands that are of the same relative age and usually involve retention of 20 trees per acre or less (e.g., regeneration harvest, seed tree and final shelterwood removals). Exceptions to this 100-acre limit include alternatives that are more ecologically beneficial (e.g., larger unit sizes that allow less road building), or the need to address forest health-related issues, such as areas damaged by fire, insect, disease or windthrow; or creation of healthy, fire and insect resistant forest stands.
- Almost all DNR forest management activities are reviewed under the State Environmental Policy Act. These reviews consider the influences on water quantity, timing, and quality, including their cumulative impacts. In addition, the state forest practices rules provide a mechanism for analyzing watershed conditions and the potential for cumulative impacts through a voluntary watershed analysis process; and
- DNR has also assessed the potential for significant cumulative impacts at various intensities and geographic scales through its planning activities.

POLICY ON WATERSHED SYSTEMS

- **The department will assess the potential for significant cumulative impacts of department activities on watershed systems, and develop mitigation strategies as needed.**
- **To moderate the impacts of department activities on watershed systems, the department will generally limit the size of even-aged harvest units to 100 acres.**
- **The department will participate in watershed analysis as defined by state forest practices rules, when initiated by other landowners or by the state's Forest Practices program, in watersheds containing forested state trust lands.**

Riparian Conservation

DISCUSSION

Riparian areas are areas where land and water meet along the edges of streams and lakes. Riparian areas include stream banks, adjacent floodplains, wetlands and associated riparian plant communities. Wetlands are areas where water saturates or floods the soils to develop an anaerobic rooting zone during the growing season, excluding plants that are not adapted to life in saturated soils. Wetland habitats in forested landscapes include freshwater marshes, swamps, bogs, fens, seeps, wet meadows and shallow ponds. They may be isolated from other surface waters or associated with surface water bodies, such as ponds, lakes, rivers and streams.

The interaction between aquatic and terrestrial ecosystems and the extensive edges where riparian areas adjoin upland habitats are characterized by a high

diversity, density and productivity of both plant and animal species; protect water quality and quantity; and provide some of the most important fish and wildlife habitat in forestlands. Maintaining the hydrologic functions of wetlands and other riparian areas is essential to maintaining the health and function of the entire aquatic ecosystem, and it contributes to the health of upland ecosystems. Because of their importance, riparian areas and wetlands are addressed in the state forest practices rules. The rules define these areas and require protection for them.

Although these (riparian) ecosystems are only a small portion of the Eastern Washington landscape, they are disproportionately important as habitat.

In Western Washington, protection and restoration of riparian acreage and function on forested state trust lands is an integral part of DNR's *Habitat Conservation Plan* (HCP). The objectives of the HCP riparian strategy are to 1) maintain or restore salmonid freshwater habitat on DNR-managed lands, and 2) contribute to the conservation of other aquatic and riparian obligate species. To meet these objectives, the HCP requires establishment of riparian management zones, including wetland management zones, and provides protection measures that meet specific criteria to ensure the proper functioning of these systems. In addition, DNR and the Federal Services have agreed on a Riparian Forest Restoration Strategy that implements the HCP riparian strategy.

In Eastern Washington, the protection of riparian and wetland acreage and function is critical. Although these ecosystems are only a small portion of the Eastern Washington landscape, they are disproportionately important as habitat. Riparian and wetland areas in Eastern Washington are more strongly differentiated from surrounding uplands than the same areas in Western Washington and therefore, provide a more specialized habitat for rare plant and animal species.

POLICY ON RIPARIAN CONSERVATION

- **In Western Washington, the department will maintain or restore salmonid freshwater habitat on department-managed lands and contribute to the conservation of other aquatic and riparian obligate species through implementation of DNR's *Habitat Conservation Plan*.**
- **In Eastern Washington, the department will establish riparian management zones along fish-bearing waters, perennial non-fish bearing waters, and when necessary, along seasonal non-fish bearing waters. The department will also establish wetland management zones. In both management zones, the department will protect key non-timber resources, such as water quality, fish, wildlife habitat and sensitive riparian and wetland plant species.**
- **Statewide, the department will allow no net loss of acreage and function of wetlands, as defined by state forest practices rules.**

The department will identify forested state trust lands with special ecological features of regional or statewide significance.

Special Ecological Features

DISCUSSION

Special ecological features are those species, specialized habitats, ecosystems and other natural features that are in need of special management consideration for their long-term survival. These include rare species and rare ecosystem types, as well as widespread ecosystem types that are threatened in some manner.

The distribution of ecosystem types and individual species, including special ecological features, are influenced by geology and climate, as well as by natural disturbances and ecological processes. They are neither uniform across the landscape, nor are they random in their distribution. Each species and each ecosystem type occupies that portion of Washington that is suitable in terms of these factors. Therefore, special ecological features vary considerably from one ecoregion to another. Some special ecological features occur in more than one ecoregion, while others are limited to a single ecoregion.

Special ecological features may be priorities for inclusion within the statewide system of natural areas, including Natural Area Preserves and Natural Resources Conservation Areas. Features that are priorities for inclusion within the system include those that are of conservation concern, and all of those naturally occurring features of the state for which there is no representation, or inadequate representation, within the natural areas system. In many cases, such features on forested state trust lands can be transferred out of trust status, with full compensation to ensure their protection. In other cases, special features may be small enough or located such that their continued protection is consistent with trust management.

POLICY ON SPECIAL ECOLOGICAL FEATURES

- **The department will identify forested state trust lands with special ecological features of regional or statewide significance that fill critical gaps in ecosystem diversity.**
- **The department will protect such areas through means consistent with trust objectives, including transfer out of trust status, retention in long-term deferral status, creative partnerships or other available mechanisms.**

Genetic Resource

DISCUSSION

The genetic makeup of tree populations is a key factor affecting forest health and productivity. The genetic makeup of native tree populations is referred to as the gene pool. DNR recognizes the importance of maintaining and protecting this genetic resource. As a result, DNR considers the native gene pool to be one of the trust assets that it protects.

DNR's Tree Improvement program has been protecting the gene pool both by carefully managing the reforestation seed supply and by maintaining a system of gene pool reserves. The reserves have been deferred from harvest to ensure that native genetic material, well-adapted to local conditions, will be available to DNR in the future.

DNR considers the native gene pool to be one of the trust assets that it protects.

Gene pools are also located in areas of forestlands that are protected for other reasons. Unstable slopes, riparian areas, and old-growth stands are examples of areas that may have excellent gene pools in a protected status. These pools may augment those that have been deliberately deferred from harvest to protect the genetic resource.

POLICY ON GENETIC RESOURCE

- **The department will protect and enhance a diverse gene pool of native trees on forested state trust lands to ensure well-adapted future forests.**

Social and Cultural Benefits

The Social and Cultural Benefits category contains policies that provide broad direction concerning the direct role that forested trust lands play in the lives of Washington's residents, in addition to tax-free support for schools and institutions. These policies address subjects related to social and cultural benefits from the lands and DNR's activities:

- Public Access and Recreation
- Visual Impacts
- Cultural Resources
- Local Economic Vitality

Public Access and Recreation

DISCUSSION

As directed by the Multiple Use Concept, DNR provides recreation and public access opportunities across 2.1 million acres of forested state trust lands. Every year hikers, hunters, trail riders, campers and others who enjoy recreating outdoors make more than nine million visits to DNR-managed lands. Recreation on forested state trust lands is an important component of the quality of life in Washington State. It can and does occur in both a dispersed or concentrated way and, in some

cases, is supported by developed facilities, such as campgrounds, trailheads and trails. Consequently, there are substantial public expectations for access and recreation. In addition, population growth has and will continue to greatly increase the demand for these uses, as well as the incidence of public abuse and illegal activities. At the same time as this demand and level of activities have been increasing, funding to provide recreational opportunities has decreased.

The Multiple Use Concept states that DNR shall provide recreational opportunities where such uses are compatible with trust objectives. Therefore, public access and recreation must be compatible with trust objectives. Compatibility can be achieved by:

- Obtaining full market value compensation to the trust(s) for developed facilities;
- Ensuring that dispersed uses have minimal economic, ecological or social impacts; or
- Enhancing trust returns.

The compatibility of dispersed uses with trust objectives is a function of:

- The physical location of the use, including its intensity; and
- The availability of the users, and DNR staff and resources to manage the use.

In some cases, dispersed uses must be mitigated, redirected, limited or eliminated to ensure compatibility with trust objectives. In addition, collaboration between DNR, the public, user groups, other landowners, and other agencies and organizations is critical for providing safe public access and recreation opportunities on forested state trust lands and in meeting trust objectives.

POLICY ON PUBLIC ACCESS AND RECREATION

- **When managing public access and recreation use on forested state trust lands, the department will protect trust interests and seek to balance economic, ecological and social concerns by evaluating the following on a landscape or case-by-case basis:**
  - **The physical condition of the area in a landscape context, including neighboring landowners;**
  - **The characteristics of the users, including their degree of organization;**
  - **The reasonable availability of financial, staff and other resources for sustainable, long-term management; and**
  - **Cost and benefit to the trust(s).**
- **The department will work to control negative effects of designated or dispersed public access and use on forested state trust lands through collaboration with the public, user groups, other landowners, and other agencies and organizations. Negative effects include:**
  - **Threats to public, employee and department contractor safety;**
  - **Theft, vandalism, garbage dumping and other illegal activities; or**
  - **Damage to soils, water quality, plants, animals or other elements of the forest environment.**

- **Mitigation will include the closing, limiting or redirecting of public access when necessary.**
- **In meeting the intent of the Multiple Use Concept, the department will only expend management funds for closing, limiting or redirecting public access in order to meet trust objectives or protect trust assets by controlling the impacts of incompatible dispersed public access and illegal activities.**

Visual Impacts

DISCUSSION

DNR activities can alter the appearance of forest stands and forested landscapes. The "visibility" of forestry operations is influenced by several factors, including the position and distance of the viewpoint from the activity; the topography of the land; the type of operation and the intensity and/or concentration of activities; what is revealed as a result of the activity; and how long the activity is in view. Population growth, especially in Western Washington, has significantly increased the visibility of DNR's forest management activities.

Public acceptance of forestry activities is influenced by visual changes. Changes can be local in nature, such as views from a recreational trail or an individual residence; or regional, such as the I-90 Greenway or the Columbia River Scenic Gorge, or may include views from a state highway, or a background view to cities and towns. The observer's perspective and personal values influence whether the reaction to the visual impact is positive, neutral or negative.

Visual impacts can be mitigated through a variety of strategies and mechanisms:

- Early outreach to the community to help determine the visual sensitivity to a proposed activity;
- Use of land management requirements – such as riparian and wetland buffers, protection of unstable slopes, and location and arrangement of wildlife trees – to create buffers or screen harvest activities;

- Use of different silvicultural strategies – timing, design and size of timber harvest units; the arrangement of harvest units over time and space across landscapes; compliance with the "green-up" requirements of the state forest practices rules; and/or
- Visual modeling tools to help identify visual impact mitigation strategies.

DNR's forest land planning process may be used to identify areas of visual sensitivity and develop strategies to mitigate visual impacts.

POLICY ON VISUAL IMPACTS

- **The department will consider whether there are visual impacts of management activities and will design appropriate mitigation strategies based on whether impacts are of local or regional significance as follows:**
  - **For local visual impacts, the department will generally mitigate visual impacts through design and application of other land management requirements; and**
  - **For regional visual impacts, the department will develop additional strategies to mitigate impacts. The department will assess the cost/benefit to the trust(s) of prudent expenditures to mitigate visual impacts, in light of public concerns, and seek compensation where appropriate.**
- **When in the best interest of the trust(s), the department will consider transfer of significant scenic areas out of trust status, when compensation to the trust(s) is secured.**

The department will actively communicate and promote collaboration with Tribes and interested stakeholders to address culturally significant areas.

Cultural Resources

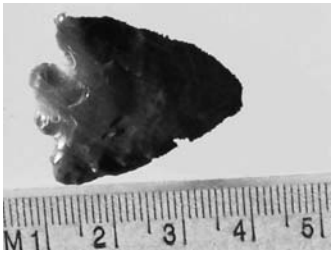
DISCUSSION

DNR recognizes the significance of cultural properties, current cultural uses, and historic and archaeological sites. DNR also acknowledges the importance of government-to-government communications and collaboration with the Tribes, as discussed in the *Commissioner's Order on Tribal Relations* (see Appendix B), as well as with interested stakeholders.

Timber harvest and associated road building activities can have various impacts on cultural resources and their functions. For archaeological and historic sites, these activities can result in physical damage or destruction with a loss of cultural, scientific and historic values. For traditional cultural properties, these activities can result in physical damage or destruction, as well as a loss of privacy, isolation and perceived purity. On the other hand, forest management can change species composition that can favor resources utilized by the Tribes. For example, timber harvesting, like the traditional native American burning of forests, can encourage the growth of berry-producing species and provide forage for game animals. Cedar growth is also promoted on many trust lands by the removal of competing tree species. Forest roads can also enable Tribal elders to more easily access traditional use areas.

The Department of Archaeology and Historic Preservation maintains both Tribal and non-Tribal information on more than 20,000 archaeological sites and more

than 100,000 historic properties. In addition, many Tribes maintain an extensive listing of cultural resource properties within ceded lands and usual and accustomed areas.



POLICY ON CULTURAL RESOURCES

- **The department will identify and protect significant historic and archaeological sites, consistent with state and federal law.**
- **The department will actively communicate and promote collaboration with Tribes and interested stakeholders to address culturally significant areas.**
- **When in the best interest of the trust(s), the department will consider transfer of historic, archaeological and culturally significant areas out of trust status, when compensation to the trust(s) is secured.**

Local Economic Vitality

DISCUSSION

While meeting trust objectives, management of forested state trust lands also provides dollars and jobs for local economies.

Forested state trust lands near local communities supply jobs in the forest products industry, both in the woods and in local mills that process timber from these lands. Some niche industries are also dependent on minor forest products from forested state trust lands. In addition, forested state trust lands often attract recreation visitors who spend money in local communities. These products and uses contribute to local economic vitality, which can also be affected by location and timing of management activities and access to state lands.

POLICY ON LOCAL ECONOMIC VITALITY

- **In considering the relationship between local economic vitality and forest management activities, the department may take actions in support of local economic vitality when they are compatible with or directly support trust objectives.**

Implementation

The Implementation category contains policies related to carrying out the *Policy for Sustainable Forests*. These policies address subjects related to key elements that support the direction of the policies being put into practice on the ground:

- Forest Land Planning
- General Silvicultural Strategy
- Forest Roads
- Research
- External Relationships
- Implementation, Reporting and Modification of the Policy for Sustainable Forests

Forest Land Planning

DISCUSSION

Through forest land planning, DNR takes the direction (required outcomes) established by state and federal law and by Board of Natural Resources policy, and applies it to a specific geographic area, identifying specific local strategies and measurable outcomes.

Many strategic outcomes identified in law and policy are based on large landscapes such as the planning units identified in DNR's *Habitat Conservation Plan* (HCP). Planning at a large scale provides a more comprehensive examination of the effects of forest management strategies across multiple landscapes. However, some forest management strategies may focus on smaller geographic scales to address critical, localized issues. With better forest information and more powerful technology to analyze it than ever before, DNR can plan at any scale in sufficient detail and accuracy to address complex natural resource issues, including assessing the potential for significant cumulative impacts of DNR's activities on watershed systems and development of mitigation strategies as needed.

Forest land planning not only identifies forest management strategies and where and what activities will most likely produce the desired outcomes, it also supports adaptive management. Through feedback and communication opportunities, including reporting progress toward desired outcomes to the Board of Natural Resources and providing for stakeholder and public participation, the forest land planning process can help refine strategies and outcomes as appropriate.

Environmental review requirements of the State Environmental Policy Act provide a mechanism to not only identify the impacts of forest land planning, but to also bring that information to the Board of Natural Resources and the public.

POLICY ON FOREST LAND PLANNING

- **In implementing Board of Natural Resources policy, the department will develop forest land plans at geographic scales similar to DNR's *Habitat Conservation Plan* planning units.**

- **The department may use different geographic scales to address special circumstances.**
- **The department will utilize the requirements of the State Environmental Policy Act to communicate department objectives and outcomes; to consider local, regional and statewide interests and concerns; and to develop and analyze forest management strategies.**
- **The department will prioritize and develop new forest land plans over time. The development of plans will depend on available resources and budget.**
- **As plans are developed, the department will integrate previous planning work within new forest land plans as appropriate.**

The department will provide professional management of forested state trust lands through active management and stewardship…

General Silvicultural Strategy

DISCUSSION

DNR defines silviculture as the art and science of cultivating forests to achieve objectives. Innovative silvicultural treatments may be used to create, develop, enhance, or maintain forest biodiversity, health and revenue potential. All silvicultural strategies are applied within a context of specific objectives (stand-level or larger-area) to achieve ecological outcomes, long-term sustainable flow of forest products, services, and other values. DNR generally intervenes with the management of stands whose progress toward objectives is below potential. Site-specific silvicultural prescriptions include intensive activities, such as improved planting stock, site preparation, fertilization and thinning. Stands selected for regeneration harvests include, but are not limited to, those that are not likely to positively respond to partial harvest regimes.

Treatments such as biodiversity pathways can be used to create complex, multi-aged forest stand structures that sustain key forest stand elements, replicating vital ecological functions at the stand and landscape levels. By developing the stand structures that are typical of older forests, this approach can be used to meet the older-forest targets of DNR's *Habitat Conservation Plan* (HCP).

DNR intends to actively manage suitable structurally complex forests to achieve older-forest structures across 10-15 percent of each Western Washington HCP planning unit in 70-100 years. Older-forest structures that contribute to this target are represented by stands in the fully functional or niche diversification stage of stand development.

The landscape context of a structurally complex stand greatly influences its suitability to be managed to meet older-forest targets. The size of the stand, its proximity to old-growth or other structurally complex forest stands, or the scarcity of old-growth and other structurally complex stands are all factors in determining if a stand is suitable for contributing to older-forest targets. Assessment of the landscape conditions can identify the relative contribution that a structurally complex forest stand can make toward achieving those targets.

POLICY ON GENERAL SILVICULTURAL STRATEGY

- **The department will provide professional management of forested state trust lands through active management and stewardship of the greatest possible portion of these lands.**
- **The department will carry out active management as an integral part of the department's fiduciary responsibilities to achieve, on a landscape basis, a combination of forest structures that, over time, provide for broad and balanced economic, ecological and social benefits.**

- **The department will use intensive and innovative silviculture to guide the desired progression of stand development to simultaneously produce trust revenue and create structural diversity across the landscape.**
- **The department will target 10-15 percent of each Western Washington *Habitat Conservation Plan* planning unit for "older" forests—based on structural characteristics—over time.**
- **Through landscape assessments, the department will identify suitable structurally complex forest stands to be managed to help meet older-forest targets. Once older-forest targets are met, structurally complex forest stands that are not needed to meet the targets may be considered for harvest activities. However, old growth is addressed in the Old-Growth Stands in Western Washington policy.**

Forest Roads

DISCUSSION

DNR repairs and maintains about 14,000 miles of forest roads statewide (12,000 on forested state trust lands and 2,000 on other non-DNR lands). The road system is a trust asset that facilitates cost-effective management of other trust assets and increases their value.

DNR's road system also provides a variety of social benefits, including recreational access and access to private forestlands and residences. However, if not properly managed, roads have the potential to cause increased costs and risks by damaging the environment or providing opportunities for illegal activities on forested state trust lands. Design, location and abandonment of forest roads are carefully considered in regard to the impacts to the environment and forestland management needs. Public access and recreation can also be a consideration.

POLICY ON FOREST ROADS

- **The department will develop and maintain forest roads to meet trust objectives and Board of Natural Resources policy, including protecting and enhancing the asset value.**
- **To minimize adverse environmental impacts, the department will rely on the requirements of DNR's *Habitat Conservation Plan*, state forest practices rules and the State Environmental Policy Act, and will minimize the extent of the road network, consistent with other Board of Natural Resources policy.**

Research

DISCUSSION

DNR engages and participates in a broad range of scientific and economic research.

DNR employs scientists to meet research and management needs that involve forest ecology, silviculture, economics, hydrology, fisheries, wildlife biology and other related subjects. It is important that DNR and its scientific staff stay abreast of the latest scientific findings, methods and technology. Information gathered through research helps ensure that the best available science and technology are available to support DNR's land management programs and financial performance.

These research efforts also help DNR meet research commitments—the concept of adaptive management as a result of research and monitoring is integral to DNR's *Habitat Conservation Plan* (HCP) as well as the state *Forest Practices Habitat Conservation Plan* (FPHCP). Adaptive management is also a cornerstone to effectively and efficiently implementing the *Policy for Sustainable Forests*.

DNR's research efforts are conducted in a variety of ecological settings to ensure relevance and applicability to the diverse forest ecosystems of the state. The Olympic Experimental State Forest plays a key role in DNR's research efforts where it is the appropriate ecological setting. Research is also conducted in other areas of the state, such as in the Capitol State Forest near Olympia, where it provides the right setting and applicability to other forested state trust lands.

Participation in research cooperatives is critical in meeting DNR's research objectives in an effective and cost-efficient manner. This includes participating in a variety of research cooperatives with other agencies and organizations, such as with the state forest practices Cooperative Monitoring Evaluation and Research group, the University of Washington and the Washington State University. DNR also recognizes the importance and value of peer review.

POLICY ON RESEARCH

- **The department will endeavor to stay abreast of and use the best available science.**
- **The department will focus research on issues related to natural resource protection and conservation, and to sustained production of forest products and may include:**
  - **Applied research to evaluate silvicultural activities, test current practices and, where appropriate, initiate a process for change; and**
  - **Research and evaluation of new methods of forestry, silvicultural strategies and changes in technology.**

External Relationships

DNR values agency transparency and openness, and recognizes the importance of providing information to the public and collaborating with stakeholders and other agencies…

DISCUSSION

As the manager of 2.1 million acres of forested state trust lands, DNR is a neighbor to thousands of citizens, businesses and other forest landowners. DNR values agency transparency and openness, and recognizes the importance of providing information to the public and collaborating with stakeholders and other agencies to achieve trust objectives.

DNR participates in educational efforts, such as sharing information about the forested state trust lands, including the trust mandate and how DNR's management activities provide funding for construction of schools, universities, prisons, institutions and Capitol buildings. DNR is also well-positioned to offer and promote environmental education, because forested state trust lands can serve as both a laboratory and an outdoor classroom.

POLICY ON EXTERNAL RELATIONSHIPS

- **In carrying out its management activities, the department will actively communicate and promote collaboration with trust beneficiaries; Tribes; local, state and federal governments; stakeholders; and the public.**

Implementation, Reporting and Modification of the Policy for Sustainable Forests

DISCUSSION

DNR has the responsibility to fully implement the *Policy for Sustainable Forests*. Keeping Board of Natural Resources policies current requires ongoing monitoring and periodic reporting on implementation. A program of monitoring and reporting allows the policies to then be reviewed and updated in response to changing circumstances; it also keeps the public informed.

The focus on a strong monitoring and adaptive management program for the *Policy for Sustainable Forests* should result in Board of Natural Resources policy remaining relevant and current. Therefore, there is no end date identified for the *Policy for Sustainable Forests*.

POLICY ON IMPLEMENTATION, REPORTING AND MODIFICATION OF THE POLICY FOR SUSTAINABLE FORESTS

- **The department will employ a structured program to monitor implementation of the policies in the *Policy for Sustainable Forests*, and will report annually to the Board of Natural Resources on implementation.**
- **As needed, the department will recommend changes in policy to the Board of Natural Resources due to changes in law, scientific knowledge, new information or other circumstances.**
- **At five-year intervals, the department will perform a substantive review of the *Policy for Sustainable Forests*.**
- **In reporting to the Board of Natural Resources and the public, the department will present clear and succinct information on the *Policy for Sustainable Forests*.**