

2003 Calculation of the Sustainable Harvest for DNR-managed Forests¹ in Western Washington

Environmental Impact Statement Scoping Summary and Responses to Public Comments received during the Scoping Process

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NOTE TO READERS

This document contains many references to state laws and codes.

The laws are contained in the Revised Code of Washington (RCW), and Washington Administrative Code (WAC), which can be found in libraries throughout the state, and on the state of Washington website at www.wa.gov

The State Environmental Policy Act (SEPA) and details about DNR's SEPA office and Environmental Impact Statements (EIS) process can be found at www.dnr.wa.gov, which also is linked to the State Department of Ecology website.

I. Overview

The Washington State Department of Natural Resources (DNR) has unique obligations in managing lands for the State of Washington. With the State as the trustee, the Legislature has designated DNR as manager of federally granted state trust lands, and other trust lands acquired by the state. The State acquired the granted trust lands under the Enabling Act and State Constitution when Washington became a state in 1889. State Forest Board trust lands were formerly private lands that were mostly logged, abandoned and tax delinquent, foreclosed by the

¹ DNR-managed Forests include: Federally Granted Lands, Forest Board Purchase Lands, Forest Board Transfer Lands, Natural Area Preserves (NAPs) and Natural Resource Conservation Areas (NRCAs).

counties, then transferred to the state, mostly in the 1930s; and some Forest Board lands were purchased by the state. There is also a recently established trust set up by the legislature to support construction of community and technical colleges statewide.

DNR manages approximately 1.4 million acres of the forest land in western Washington. DNR has a duty to produce long-term income for the trust beneficiaries — public schools and universities, various state institutions, and many counties. DNR uses best forest management principles in its stewardship of these lands.

State law (RCW 76.68) directs DNR to apply “sustained yield” management of state trust forestlands. The law requires DNR to periodically adjust acreages designated for inclusion in the sustained yield management program, and re-calculate a 10-year sustainable timber harvest level. To accomplish this, DNR recalculates timber harvest with the goal of producing sustainable even-flow harvest volumes over time, to make sure that harvests can be sustained into the future with fairness to today’s beneficiaries as well as all future generations of trust beneficiaries.

The current sustainable harvest project includes the use of a new computer spatial model to recalculate a 10-year sustainable harvest level for DNR-managed forests in western Washington. The result is a more robust analysis of forest landscapes, growing and harvesting scenarios, fish and wildlife habitat and other information to assist policy decisions made by the Board of Natural Resources (Board), which sets major policies for the state lands managed by DNR.

The purposes of the re-calculation proposal are:

1. To incorporate new information into a new model to recalculate the decadal sustainable timber harvest level under current existing DNR policy, federal and state laws.
2. To permit the Board to evaluate any policy changes after a number of policy alternatives have been modeled and analyzed through an Environment Impact Statement.

The Sustainable Harvest Environmental Impact Statement (EIS)

DNR will be developing an EIS for the 2003 sustainable harvest calculation for DNR-managed forests in western Washington. The State Environmental Policy Act (SEPA) process was formally initiated with the scoping notice released on February 22, 2002 and with a series of public meetings that were held around the state in the following locations on the following dates.

March 6 Seattle (Seattle Vocational Institute)

March 11 Sedro Woolley (Three Rivers Inn Restaurant)

March 13 Ellensburg (Central Washington University)

March 19 Port Angeles (Peninsula College)

March 20 Longview/Kelso (Lower Columbia College)

March 21 Olympia/Lacey (Lacey Community Center)

There were also ten informal meetings with stakeholder groups seeking a better understanding of the model and overall harvest calculation process.

II. EIS Scoping Summary

Scoping is the first formal step in preparing an Environmental Impact Statement (EIS). The EIS is intended to initiate public involvement in the process, and is conducted to fulfill a three-fold purpose, to:

1. 1. Narrow the focus of the EIS to significant environmental issues,
2. 2. Eliminate issues that would have insignificant impacts, or that are not directly related to the proposal, and
3. 3. Identify alternatives to be analyzed in the EIS.

This summary highlights a wide range of issues that commenters have identified as potentially important and related to the proposed sustainable harvest calculation. It is important to note that under SEPA, only issues related to probable significant environmental impacts will be addressed in the EIS.

This comment response document includes summaries of comments by 330 public meeting participants, and more than 410 written letters submitted to DNR. Also included are comments given by 26 organizations represented at ten stakeholder meetings, and other written comments received to date. In all, about 2,000 individual comments have been received regarding the sustainable harvest calculation EIS for westside state DNR-managed forests.

The 2,000 comments capture diverse issues, ideas, and opinions proposed by the public and stakeholders to be included in the scope of the EIS. Comments have been summarized by subject, and have been examined to determine:

1. 1. If the issues are germane to the sustainable harvest calculation for state DNR-managed forests, and
2. 2. How comments about those issues will be addressed.

In summary, the comments received have led DNR to develop four questions that highlight the broad policy issues for the Board of Natural Resources (Board):

1. 1. How should DNR manage for biological conservation?
2. 2. How intensively should DNR manage DNR forests?
3. 3. How should harvest levels be organized? (For instance, as a whole, by trust, by ownership group, as defined in the Forest Resources Plan, etc.)
4. 4. How much older forest is desirable on DNR-managed forests?

III. Summary of Comments Received and Responses to them

A. ISSUES TO BE CONSIDERED BY THE BOARD OF NATURAL RESOURCES IN DETERMINING A SUSTAINABLE TIMBER HARVEST LEVEL FOR STATE DNR-MANAGED FORESTS

GENERAL PROCESS

EIS Process. Many public comments included a concern about the EIS process. Commenters want all meetings to be open and democratic, and for outside contractors to develop the Environmental Impact Statement (EIS). There is considerable interest in what kind of impacts should be evaluated in the EIS. Others commented on specific additions that should be included in the computer modeling assumptions used, so that a broader array of alternatives would be analyzed during the SEPA process.

Response: The EIS process enables government agencies and interested citizens to review and comment on proposed government actions. This process is intended to assist the agencies and applicants to improve their plans and decisions, and to encourage the resolution of potential concerns or problems prior to issuing a final EIS. Agency officials, like the Board, use the process to make decisions.

For a detailed description of the process involved in the development of a *non-project EIS* under the State Environmental Policy Act, see WAC 197-11-443.

As stated since the initiation of this SEPA process, DNR is committed to conducting an open and transparent process that will integrate public comments into the EIS. To this end, DNR is including extended public comment periods at appropriate stages in the process. The Board will be briefed of public comments collected during the formal scoping period, and will integrate the scope of issues as laid out by the public and DNR into their decision for a range of reasonable alternatives to be evaluated in the EIS.

An independent contractor will be retained to complete the EIS, which will evaluate potential environmental impacts as required by SEPA.

Modeling. Commenters are interested in geographic and timing aspects of the sustainable harvest calculation where, how and when DNR is to harvest. Commenters ask DNR to run the calculation in different geographic units. Commenters want the Department to run the model to measure many conditions, including historic land management, selected sensitivity analyses and selected financial and economic impacts (market conditions, discount rate, etc.). There is concern about the computer modeling scenarios to be chosen, and the type and quality of model outputs. Additionally, there is concern about the interpretation of DNR's sustainable even-flow harvest policy.

Response: The purpose of the project is two-fold:

1. To incorporate new information into a new model to recalculate the decadal sustainable timber harvest level under current existing DNR policy, federal and state laws.
2. To permit the Board to evaluate any policy changes after a number of reasonable policy alternatives have been modeled and analyzed through an Environment Impact Statement (EIS).

The need for this harvest level recalculation is defined in RCW 79.68. This state law requires DNR to periodically adjust the acreages designated for inclusion in the sustained yield management program, and recalculates a sustainable harvest level. This requirement, however, allows for substantial fluctuations in the amount of timber offered for sale between decades, as

long as there is no prolonged curtailment or cessation. The sustainable even-flow policy in the Department's 1992 Forest Resource Plan allows DNR to harvest approximately the same amount of timber in future years. It prevents major fluctuations between decade levels, and prevents DNR from favoring one generation of beneficiary over the other.

The model will recalculate a sustainable harvest level for all DNR-managed forests west of the Cascade Crest. Calculations will be completed for the westside lands using 24 ownership groups, and at the Board's request, may be developed separately by region or by other ownership groupings.

A computer model is programmed with conditions and variables, and run with alternative scenarios projecting the conditions 200 years into the future to find a sustainable level, before the decadal level is determined.

The SEPA process will assess cumulative impacts of present and future decisions, but the model will not be run retroactively. Sensitivity analyses will be completed on some variables to determine their influence in model results. An analysis of selected financial and economic impacts will be completed.

The reasonable alternatives have not been selected, but will reflect public comments. Modeling assumptions, methodology, and results have been and will be rigorously reviewed by a technical review committee comprised of academic, public agency, and industry experts.

Science versus Emotion. The Board of Natural Resources should use the best available science in making decisions.

Response: The sustainable harvest calculation is based on informed science, a weighing of public values, and DNR's legal trust responsibilities. The Board will base their decisions on these factors. The consultant developing the EIS also will base their analysis of the alternatives on informed science. This is an estimate of the harvest level, which is based on assumptions and sample data. The results are reliable within a confidence interval.

Data Information and interpretation of modeled results. Commenters want independent review of the EIS with some support for the concept of an advisory group (comprised of tribal representatives, DNR staff, GIS experts, etc.). There are concerns about the uncertainties associated with data, modeling assumptions, and interpretation of results. Some commenters suggest using other models [University of Washington's Landscape Model System (LMS)] for predicting harvest levels.

Response: DNR has convened a technical review committee comprised of academic, public agency, and industry experts in the fields of forest science and management. The committee's role is to assist in evaluating the modeling process, and provide recommendations to the Board and DNR to create a scientifically supportable sustainable harvest calculation. In addition, DNR has and will continue to solicit input from the public and stakeholder groups as the process progresses.

A private contractor will develop the environmental analysis and write the EIS. A request for proposals was initiated in April, and DNR has selected an "Apparent Successful Contractor."

DNR is currently also contracted with D.R. Systems, which is assisting DNR in the development and customization of the model. The D.R. Systems model OPTIONS® utilizes input data supplied by DNR. Environmental impact analysis will be performed using data created by the model and other available data.

Consideration of Comments. All viewpoints need to be considered. Tribal comments should be recognized differently than other comments (on a government to government basis). Some commenters want the Commissioner of Public Lands alone to determine the balance. Overall, commenters requested a fair process. Some question the methodology of the survey handed out at the public meetings.

Response: DNR will give serious consideration to all comments received. DNR is committed to a respectful government-to-government relationship working with tribal governments.

On any given issue associated with the sustainable harvest calculation, public values are frequently deeply divided. The Board will take all the information available to it and make a decision that meets its responsibilities to the trust beneficiaries and laws, while accommodating the broadest band of public desires within that context.

THE TRUST MANDATE AND OTHER POLICY CONSIDERATIONS

Clear Statement of Mandate. Commenters want a clear statement of the trust mandate and DNR's mission. Some think that the constraints used to determine a harvest level should be weighed against the trust mandate. Many believe the trust mandate means balancing economic, environmental and social concerns (i.e., existing laws, contractual agreements, social obligations). There are also concerns with protecting the body of the trusts by sustaining healthy forests.

Response: According to the 1992 Forest Resource Plan, a trust is a relationship in which one entity, the trustee, holds title to property, which it must keep or use for the benefit of another. The relationship between the trustee and the beneficiary is a fiduciary relationship, and it requires the trustee to act solely in the best interests of the beneficiary. As a trust manager, DNR is required to follow the common law duties of a trustee, which include: administering the trust in accordance with the provisions that created it, maintaining undivided loyalty to each of the trusts, managing trust assets prudently, producing long-term income from the trust properties for the beneficiaries while recognizing the perpetual nature of the trusts, dealing impartially with beneficiaries, and reducing the risk of loss to the trusts.

DNR has a legal duty to produce long-term income for the trust beneficiaries, one of the principles commonly called the "trust mandate." In 1984, the Washington State Supreme Court specifically addressed the state trust relationship in County of Skamania v. State of Washington. This case addressed two of a trustee's duties. It found that a trustee must act with undivided loyalty to the trust beneficiaries, to the exclusion of all other interests, and manage trust assets prudently. The Court also cited a series of cases in which private trust principles were applied to land grant trusts.

It is the Board of Natural Resources legal and fiduciary responsibility to make all decisions within the confines of the trust mandate and all existing legal/contractual mandates. In addition,

they will address issues of sustainability in examining the balance of social, environmental, financial, and economic impacts associated with setting a sustainable harvest level. The Board will serve the long-term interest of the trusts by sustaining healthy forest lands.

DNR-Managed Forests. Commenters want to know for whom the lands are managed.

Response: State DNR-managed forests are held in trust for various beneficiaries, in perpetuity — that is, forever. By law, the Commissioner of Public Lands administers the state trust lands. The legislature has designated DNR as manager of all of the state trust lands.

There are three types of state trust lands: Federally Granted trusts, Forest Board trusts, and Community College Forest Reserve. In preparation for Washington's statehood, the U.S. Congress set aside sections of land across the state. Known as Federal Grant lands, they were to provide funding to support eight specific state trusts. The largest is the Common School trust (originally, two sections of each township of the state 2 of every 36 square miles) to support construction of Kindergarten through 12th grade public schools statewide; others include the Agricultural School trust and Scientific School trust (support the Washington State University), Charitable, Educational, Penal and Reformatory Institutions trust (supports those state institutions), University Original trust (supports the University of Washington), University Transfer trust (originally part of the charitable trust but was transferred by the legislature to provide additional support to the University of Washington), Normal school trust (supports what were originally teachers colleges, now the three regional Universities: Western Washington University, Central Washington University, and Eastern Washington University), and Capitol building trust (supports construction of state buildings on the capitol campus in Olympia).

Forest Board lands fall into two categories, Forest Board Transfer and Forest Board Purchase lands. Forest Board Transfer lands were generally logged over tax-delinquent lands deeded to the state to manage pursuant to RCW 76.12.020 and 76.12.030. Forest Board Purchase lands were logged or burned-over lands purchased by the state pursuant to RCW 76.12. They support the counties and their junior taxing districts in which they are located and the state general fund. The Community College Forest Reserve revenues go into a special fund for operating expenses or capital improvements on community college campuses.

Intergenerational Equity. Commenters wanted the Board of Natural Resources (Board), as trust managers, to remember inter-generational equity that this generation is responsible to both future generations of trust beneficiaries and the current generation. One generation cannot receive more than its fair share. Some feel this could be accomplished through longer forest harvest rotations. Still other commenters question the benefit to future generations of even-age plantations.

Response: Common law requires that a trustee make trust property productive without unduly favoring present beneficiaries over future beneficiaries. The Board takes very seriously the responsibility of managing for intergenerational equity, as well as the other three trust principles discussed earlier. The Board is interested in looking at a range of alternatives in the EIS, all of which meet the trust management principles. Alternatives chosen will represent a range of forest management strategies. One of the concepts of sustainability is to foster inter-generational equity. This can be achieved by preventing major harvest fluctuations between decade levels.

Maximizing Income. Commenters want management based on DNR's fiduciary responsibility, even if current policies or laws must be modified to do so. Other comments call for allowing export logging, and using contract logging as a way to maximize income for timber from DNR-managed lands. Commenters expressed an interest that harvest rotation age be determined solely using financial criteria and not biological. Other commenters want DNR to manage for both ecological values and revenue to maintain trust viability for long-term benefits.

Response: The Board has directed the DNR to develop a recalculation of the sustainable harvest level that meets: 1) all Federal and State Statutes; 2) the Trust Mandate; 3) the 1997 Habitat Conservation Plan objectives; and 4) the 1992 Forest Resource Plan policies. In addition, the current Forest Resource Plan policy #4 states that "the Department will manage state forests lands to produce a sustainable, even-flow harvest of timber, subject to economic, environmental and regulatory considerations."

Desired modifications in DNR's marketing and timber harvesting practices that require changes in state law are beyond the scope of this proposal and DNR and Board authority. Such requests should be directed to the state legislature. While decisions about forest management strategies (rotation age, for example) are within DNR's purview, the restriction on the export of logs coming from state lands is a decision of the U.S. Congress.

Beneficiaries. Commenters want the school trusts, counties, and small communities to have predictable and reliable revenue. Some comments suggested that local school district boundaries be part of an economic impact analysis. Some comments indicated that the calculation should be based on long-term sustainability rather than maximizing today's revenues to schools. Other comments suggested that DNR should consider current and future budget shortages in analysis and reminded the DNR that it is one of the biggest 'beneficiaries' of trust revenues; some commenters called for DNR to renegotiate the HCP in order to maximize revenue to beneficiaries.

Response: The requirement of undivided loyalty to trust beneficiaries is fundamental to all policies and activities regarding trust lands. This principle requires that trust land and its assets not be diverted to benefit others at the expense of the trust beneficiaries without compensation. Integral to the concepts of both sustained yield (79.68 RCW) and sustainability is stability of benefits to trust beneficiaries. As trust managers, the DNR intends to provide revenue to the trust beneficiaries through providing a sustainable even-flow of timber from state DNR-managed forests, both today and in the future.

To provide stability and predictability for trust land forest management, DNR and federal agencies signed a 70-100 year Habitat Conservation Plan (HCP) agreement in January of 1997. The HCP covers 1.6 million acres of DNR-managed forests affected by the federal listing of the northern spotted owl as threatened. DNR's multi-species HCP agreement establishes habitat commitments that need to be met over the life of the contract. The agreement allows DNR flexibility to meet conservation benefits, revenue production, and public use goals for state trust lands. DNR's HCP protects habitat for all upland endangered species, and provides riparian protection along waters and wetlands on DNR-managed western Washington forests and other state lands in its care. It provides protection of all current and future listed aquatic species.

As long as DNR meets its commitments defined in the plan, the federal government agrees not to add restrictions or disrupt long-term timber harvest plans based on its Endangered Species Act (ESA) enforcement authority. Nor will they seek penalties for an incidental harming of a listed species or accidental removal of some habitat (see HCP Implementation Agreement).

DNR will perform a financial and economic analysis of alternatives and their impacts on trust revenues, though not by school districts. DNR will not base the sustainable harvest level on current or future budgetary needs. It is not the function of the sustainable harvest calculation to predict future budgetary conditions.

The HCP commitments, along with current Board policies, are being modeled in a scenario (Tier 3). The sustainable harvest process may examine other management strategies to meet HCP goals. Re-negotiating the HCP is beyond the scope of this project.

Foreclosing Future Options. Some commenters suggested that given future environmental uncertainties, DNR should minimize all resulting negative impacts to the environment or analyze the full environmental and economic costs of any negative impacts. Others suggested that the DNR should consider in its analysis future population growth and its possible affect on foreclosed future options. Meanwhile, other commenters suggested that DNR should make forest management changes necessary to become Forest Stewardship Council certified in an effort to not foreclose future options.

Response: DNR believes it is prudent to manage trust assets so that future income is not foregone by actions taken today. This includes future income from revenue-generating activities undertaken today, those expected to be undertaken in the future (like timber harvest), and those unforeseeable at the present time.

At the same time as meeting DNR's goals, minimizing negative environmental impacts is a crucial component of trust asset management. There will likely be a greater demand for most trust land resources given population projections for Washington State. The management of DNR forests under a certification system will be considered independently from the sustainable harvest calculation process.

Prudent Person Doctrine. Commenters express that the prudent person language is key to long-term public support of trust land management activities.

Response: Trust managers are legally required to manage a trust as a 'prudent person,' exercising such care and skill as a person of ordinary prudence would exercise in dealing with his or her own property. In DNR's view, this means, among other things, avoiding undue risk.

Forest Resource Plan (FRP). There is concern about how the 1992 Forest Resources Plan (FRP) is being interpreted and whether changes in the plan should be examined. Particular interest surrounds the interpretation of issues relating to sustained yield and the DNR's policy on sustainable even flow of timber harvest. Confusion exists about whether the sustainable harvest calculation represents a ceiling or an obligation. Commenters want a clear explanation of FRP policies, their interpretation and implementation. Some want DNR to renew the expired FRP in conjunction with sustainable harvest calculation.

Response: The sustainable, even-flow timber harvest policy (FRP policy #4) directs DNR to harvest approximately the same amount of timber every year, prevent major fluctuations between decadal levels, and avoid favoring one generation over another. This policy is implemented by setting a harvest level for the coming decade and then, by dividing that number by ten, an average annual harvest volume is calculated. The decadal volume becomes DNR's obligation.

The FRP policy #4 provides the ability for the DNR to fluctuate the annual harvest volume up to 25 percent (plus or minus) from the decade average. This annual flexibility gives DNR some latitude to capitalize on timber market changes. DNR has and will continue to look at ways to increase trust revenue through the control, timing, and type of products entering the market. Under the present lump-sum system of selling timber, DNR has control over timing of sales at timber auction, but has less control over exact time of harvest. Purchasers have the option to harvest any time during their contract, which usually has a term of 2 to 3 years.

The Board will continue to make policy decisions and interpretation of those policies in a way that is transparent to the public. The 1992 Forest Resource Plan was extended for an additional three years, ending June 30, 2005 and is projected to undergo a thorough review over the next three years.

Forest Board Ownership Groups. There was disagreement by commenters on how Forest Board lands should be managed, i.e. whether revenue from them should be pooled and shared proportionately with ownerships or remain un-pooled; how to provide stable funding to counties and their junior taxing districts, and if counties can 'opt out' if they are unsatisfied with trust management.

Response: The Forest Resource Plan (FRP) addresses how DNR structures revenue within the different ownership groups in Policy #6 (Western Washington Ownership Groups). The Board will base decisions on the 1992 Forest Resource Plan and may examine alternative policy positions in the reasonable alternatives assessed in the EIS.

The Board may amend FRP policies relating to or affecting the sustainable harvest calculation during the completion of the EIS, however other FRP policies will be reviewed within three years in a separate process. Changes in state law are beyond the scope of this proposal. Desires to change authorities of DNR and the Board should be directed to the state legislature.

Sustainability and Sustainable Harvest. There is significant concern about how "sustainability" is defined and measured, and that a long-term view be considered. Opinions differ as to how to balance environmental, social, and economic considerations. Some concern was expressed that a balance would not or could not be struck. Interest was expressed that any definition of sustainability includes specific factors. There is interest in keeping the sustainability issue properly confined to the appropriate legal context of "sustained yield" rather than "sustainability" (79.68 RCW). Commenters want sustainability of DNR-managed state lands judged in the context of other public and private lands, and for this sustainable harvest level to be a real number, not an inflated one.

Response: In the state Public Lands Act, Chapter 79.68 RCW, the legislature directs DNR to manage those state-owned lands under its jurisdiction capable of growing forest crops on a sustained yield basis when compatible with other legislative directives. The statute also requires

DNR to periodically adjust acreages designed for inclusion in the sustainable harvest calculation. “Sustained yield,” as defined by statute, means forest management to provide continuing harvest without prolonged curtailment or cessation.

There are issues associated with the concept of “sustainability” that are not included in the definition of “sustained yield plans” (RCW 79.68.030), components of which are addressed in other policies and mandates implemented by DNR. The Board and DNR have been discussing the goals of sustainable forest management as a policy direction, and how it will be implemented. These discussions are likely to be ongoing as the Board examines Forest Resource Plan policy implementation in the sustainable harvest calculation process, and the review of the Forest Resource Plan in the coming years.

Habitat Conservation Plan (HCP) Review. Commenters are unclear about the relationship between the HCP, the federal Endangered Species Act (ESA) and trust land management obligations. Some commenters felt the HCP should be renegotiated or cancelled because of high costs to beneficiaries relative to ecological benefits.

Response: Periodic reviews of the HCP are scheduled to evaluate the plan’s effectiveness at achieving its goals. Comprehensive reviews are scheduled to occur within one month of the first, fifth, and tenth, anniversaries of the effective date and every tenth anniversary thereafter for the full term of the agreement. Upon mutual agreement of all the parties, additional reviews may be scheduled at any time. DNR (with approval by the Board of Natural Resources) reserves the right to terminate the HCP agreement with thirty days written notice to the federal ‘Services’ (US Fish and Wildlife Service, and National Marine Fisheries Service).

The HCP is a key factor in determining the sustainable harvest level. The HCP, a contractual agreement with the Services, was developed to protect DNR from potential “take” violations under the ESA by agreeing to a set of habitat management objectives and strategies. Without assurances provided in the HCP, all forest management activities on DNR-managed forest lands would be subject to different provisions of the ESA and the uncertainty associated with protecting habitat for species listed in the future. DNR remains committed to the intent of the HCP as outlined in the plan’s objectives. However effective, strategies to achieve those objectives may be examined as part of the sustainable harvest calculation modeling and SEPA environmental impact analysis; the HCP implementation Agreement provides for both minor and major amendments requested by the signatory parties.

HCP Plan Implementation. Commenters expressed interest in examining the implementation of the HCP and the protections it provides for (ESA listed) managed species. Comments supported and opposed the length of the HCP plan, the science employed, and its effectiveness. **Response:** The HCP is the primary tool for implementing policy #23 of the Forest Resource Plan (FRP), which provides for protection of endangered, threatened, and sensitive species on DNR-managed forest lands. The HCP also sets wildlife management objectives. A monitoring program for plan implementation is outlined in the HCP.

As stated above (in section on *HCP Review*), DNR is committed to the objectives in the HCP, and the Board is interested in having staff model various strategies for accomplishing habitat commitments. It is important for strategies employed by DNR to meet the objectives of the HCP

as currently adopted, or modified in the future. The sustainable harvest modeling process provides an excellent opportunity to examine the effectiveness and efficiency of different habitat management strategies in meeting HCP objectives.

Asset Stewardship Plan. Commenters want DNR to revisit this plan.

Response: DNR develops long-term plans for managing the lands and resources in its care. In general, plans outline the obligations, goals and objectives for the particular assets addressed. The Asset Stewardship Plan provides the consistent, overarching connection tying together DNR's asset and land planning efforts. The Board of Natural Resources adopted the Final Asset Stewardship Plan in January 1998. Revision of the plan would be a Board decision.

Multiple Use Concept. Commenters want DNR to follow the "Multiple Use Concept" (Public Lands Act) and examine the impacts of public use on the sustainable harvest level or management decisions.

Response: "Multiple use," as defined in RCW 79.68, is the management and administration of state-owned lands under the jurisdiction of DNR to provide for several uses simultaneously on a single tract, or the planned rotation of one or more uses on and between specific portions of the total ownership consistent with the provisions of RCW 79.68.010. The law allows public use of DNR-managed forests when compatible with management activities and when it does not damage resources or interfere with trust management responsibilities.

Federal Legislation. Commenters want DNR to comply with all federal laws.

Response: Complying with all federal laws is DNR's legal obligation. The policies and plans developed and implemented on state trust and other lands managed by DNR must be compatible with applicable federal and state laws.

MODELING SCENARIOS, AND OPTIONS WITHIN SCENARIOS

Baseline. There is some confusion about why DNR is using tier levels three scenarios for use during in the calculation process. There is support both for and against using the tier approach, and different ideas about what the baseline should be and include.

Response: DNR has selected a tier approach resulting in three scenarios that allow the Board of Natural Resources to gain a better understanding of (a) the modeling process, and (b) the impacts of regulatory responses and policy decisions on harvest levels as it evaluates scenarios for a sustainable harvest calculation.

☒ Tier 1. Most comments centered on what should be included in Tier 1. Most comments suggested dissatisfaction that Tier 1 was presenting a scheme entirely unfettered by rules and regulations. Others believed Tier 1 is not inclusive enough without including all DNR-managed lands (including Natural Area Preserves and Natural Resource Conservation Areas) or modeling full growth capacity. There was also some concern about the appropriateness of the Stand Projection System, the growth model used in the modeling process.

Response: Tier 1 reflects the baseline 'biological capacity' — the (tree) growth-and-yield of the current trust forestland base using DNR's current silvicultural practices, but without any environmental or social management strategies. Natural Area Preserves and Natural Resource Conservation Areas are included in the scenario but are not available for harvest due to special

ecological concerns or features. If implemented, the scenario Tier 1 would not meet current federal and state laws, and is **not** intended as a reasonable EIS alternative or harvest level. It is a baseline scenario for the Board to compare the results of their policy decisions and laws on harvest levels, habitat and public use commitments reflected in the other tiers and future proposed harvest scenarios.

☒ **Tier 2.** Though there were no specific comments about Tier 2, an explanation may be helpful as context for the other tiers. Tier 2 models all current laws and policies, without DNR's HCP. Tier 2 models state Forest Practices Rules as they are written to date and includes assumptions about the federal Endangered Species Act and its restrictions in the absence of DNR's HCP.

Response: The Tier 2 scenario represents (tree) growth-and-yield of trust forest land management under federal laws (including the Endangered Species Act) and state Forest Practices Rules. This scenario models how DNR would manage timber harvest while avoiding "take" of a listed species under the Endangered Species Act. The Habitat Conservation Plan is not considered under Tier 2.

☒ **Tier 3.** Many commenters were concerned with how the HCP is modeled in Tier 3, and specifically how northern spotted owl habitat is modeled. Issues included whether habitat needs will be met according to the HCP, how nesting, roosting, and foraging (NRF) habitat will be measured, and whether or how owl circles will be modeled. There was also concern over the management of marbled murrelets, and other elements potentially missing in Tier 3 assumptions. Other comments related to how DNR will address issues of data quality and policy interpretation. Lastly, there were comments that questioned the validity of Tier 3 as a "no action" alternative, e.g. whether it truly represents the full suite of current policies and procedures.

Response: Tier 3 models DNR-managed forests under Board adopted and approved policies and strategies plus any current regulatory requirements. These policies and strategies include those in DNR's 1997 Habitat Conservation Plan.

Scoping Scenarios. Comments focused on the range and substance of reasonable scenarios chosen for the EIS. There is interest in seeing EIS scenarios reflect a wide variety of strategies and management regimes. Concern over the scoping scenarios offered by DNR was expressed. There is concern that alternatives meet SEPA and HCP requirements, and that details of alternatives be compared with ecological, economic and social analyses. Commenters offered reference for a variety of specific alternatives.

Response: Four very preliminary straw proposals (put forward as 'Initial Sustainable Harvest Modeling Scenarios' and labeled here as scoping scenarios lettered A through D) were posted on DNR's website and offered at the public scoping meetings. These proposals were designed to:

- Stimulate dialog during the scoping phase by providing real examples of many elements that would be included in the more refined modeling, and
- Illustrate examples of how policy changes affect the modeling process.

Substantial improvements to the framework for developing scenarios have been made as a result of guidance from the Technical Review Committee. Comments received during the scoping period relating to the modeling of scenarios (and summarized in this section) are instrumental to DNR and the Board in understanding the scope of issues of concern to the public. They will help

build alternatives. Therefore, the alternatives chosen to be evaluated in the EIS will look different from the scoping scenarios.

All those issues will be considered during the Board's selection of alternatives. The selection of alternatives is a Board policy decision. The specific range of modeled scenarios chosen by the Board will reflect an array of concerns.

A reasonable alternative, as defined by SEPA (WAC 197-11-786), is an *action that could feasibly attain or approximate a proposal's objectives, but at a lower environmental cost or decreased level of environmental degradation*. The alternatives assessed in the EIS will be varied solutions to accomplish DNR's goal to meet the requirements of the trust mandate. As the trust lands manager, DNR's responsibility is to provide a continuous stream of revenue for the beneficiaries, while providing ecological and social benefits.

Silvicultural Regimes

☒ **Harvest Type/Level.** Some commenters recommended harvest be regulated not only by volume, but also by area. Commenters also want DNR to equate harvest volume with types of proposed harvest (thinning, clear-cutting, etc.), define harvest by both volume and revenue, and increase harvest levels. Harvest options suggested by commenters include:

- No/minimal harvest option
- Variable density thinning
- Harvest 2nd growth forest only
- Selective harvest, no clear-cuts
- Clear-cut harvest (both for and against)
- Support whatever management regimes re-establishes a multi-storied forest over time
- Harvest "old growth"

Response: Forest Resource Plan policy #5 directs the DNR to develop its sustainable harvest calculations based on volume rather than acreage or other considerations.

The modeling results will show harvest by type. In addition, harvest volume by type will be a key factor in the financial and economic impact analysis. Suggestions by commenters of harvest type will be considered by the Board in the development of reasonable alternatives for the EIS.

Analysis of current and potential management regimes is a key component of the sustainable harvest recalculation. This analysis will be included in the development of reasonable alternatives for the EIS. (Please refer also to *Average Rotation Harvest Age*, below.)

☒ **Average Rotation Harvest Age.** Average rotation harvest ages from 40 to 140 years were suggested. Shorter rotations (40-60 years) were proposed to meet a number of social and economic goals. Other commenters suggest longer rotations (60-140 years) to meet a number of ecological, social and economic goals. Some comments propose varied rotation regimes to create a diversity of habitat across the landscape.

Response: The rotation harvest age is one of many variables which, when combined with others, will determine the sustainable harvest level. Generally, DNR refers to an “average rotation harvest age;” rotation age applies to even-aged management regimes. Depending on the location of and goals for a particular stand, different harvest ages may be applied.

Under current policy in western Washington, DNR’s current average rotation age is modeled at 60 years. This means that, as a general rule, trees younger than 55 years of age will not be harvested. However, some exceptions occur as a result of specified objectives, such as biological diversity or remoteness. DNR may cut some stands as early as 45 years and other stands only when trees reach 100 years.

Some Forest Resource Plan (FRP) policies relating to or affecting the sustainable harvest calculation may be amended by the Board during the sustainable harvest calculation EIS project. However, DNR will be reviewing the FRP and its policies in detail within two to three years in a separate process, which will include public involvement.

Alternatives to current management regimes may be considered by the Board, either separately or combined with other variables, and integrated into the reasonable alternatives to be examined in the EIS.

☒ Management Intensity. Comments ranged from recommending use of all modern intensive silvicultural techniques to more passive management with minimal use of herbicides, pesticides, fertilizers, reforestation, and pre-commercial thinnings. Other comments requested that DNR explore the possibility of managing fewer acres intensively versus many acres passively.

Response: In selecting silvicultural activities, DNR ensures that its actions are consistent with its responsibilities as a trust manager.

DNR will integrate timber harvest with watershed and wildlife protection objectives as well as social objectives such as recreation and education. DNR and the Board are exploring a range of management intensities, including use of pre-commercial thinning and other variables to meet different landscape-level objectives.

Currently, the state trust forest landscapes are not managed or harvested with a one-size-fits-all solution. One of the reasons that DNR is conducting the sustainable harvest calculation is to investigate different ways of carrying out its various responsibilities. Alternatives to current forest management regimes may be considered by the Board, either separately or combined with other variables, and integrated into the reasonable alternatives to be examined in the EIS.

☒ Reforestation and Green-up. Comments predominantly centered on the timing and composition of reforestation. Several comments propose multi-species and multi-aged regeneration; there is concern about monoculture plantations and the genetic stock of trees planted. Commenters expressed interest in knowing how the ‘green-up’ policy is handled in the model.

Response: Reforestation is required by Forest Practices rules (WAC 222-34). Reforestation is a prudent forest management practice designed into every timber harvest, and is key to forest productivity and health. DNR foresters apply site-specific silvicultural prescriptions with

specific objectives for all timber sales. Reforestation treatments include on-the-ground site preparation methods, selection and planting of seedlings, natural regeneration, control of competing vegetation while seedlings are young, and proper tree spacing.

In the sustainable harvest model, reforestation treatments are based upon current DNR forest management practices. All harvested stands in the model are assumed to regenerate through planting. Natural regeneration is also a current practice on DNR forestlands.

DNR's forest inventory demonstrates that the majority of forest stands are actually multiple species and multiple aged. However, for modeling purposes, the forest inventory is simplified and classified. The result is that the forest inventory is classified into single species forest types and into single age classes; such as 30-year old Douglas fir dominated, 30-year old Western hemlock dominated, 30-year Western red cedar dominated, 30-year old hardwood dominated etc.

In developing the sustainable harvest calculation, green-up and adjacency rules are operational constraints that affect the development of site-specific harvest planning. The sustainable harvest model evaluates the strategic impacts from policy decisions and therefore not all operation considerations are modeled explicitly. In the current modeling effort, the impact of green-up and adjacency rules are mitigated for through a set of assumptions for explicitly deferred areas, wildlife management areas, riparian management zones and green tree retention. This assumption, along with other modeling assumptions will be tested and verified by DNR field staff.

☒ Sustainable Harvest Calculation Implementation. It was commented that implementation is just as important as the calculation itself. Commenters also requested that DNR: allow for local input into timber harvesting decisions once a harvest level is implemented, utilize alternative harvest systems (such as horse logging), utilize salvage timber (fire, pest damaged) and non-merchantable wood, and consider whether to include these timber sources in calculation.

Response: The DNR continues to consider alternative timber harvest methods as a normal business practice. Maintaining the health and productivity of DNR-managed forests is essential to DNR in its responsibilities as trust manager. Prediction of the amount of salvage timber that will result from fire and pest damage is a variable not currently used in the model in determining the harvest calculation. Alternatives to current management regimes may be considered by the Board, either separately or combined with other variables, and integrated into the reasonable alternatives to be examined in the EIS.

DNR field staff will be consulted on the implementation issues associated with all the selected reasonable alternatives examined in the EIS. The DNR modeling team will work with DNR regional staff to assure that implementation is achievable. This verification will be integrated into the process of establishing a sustainable harvest level, and will continue after the EIS is completed.

☒ Old Growth. Commenters advocate protection of all remaining old growth (150+ year old) forest. Comments questioned the DNR classification and location of old growth. A wide range of values was expressed as reason to preserve old growth forest. Still other comments revolved around how to manage old growth, requesting a clear statement by DNR about how it would be

managed under each proposed alternative. Some commenters advocate harvest of old growth trust forests.

Response: The HCP, Forest Practices Rules and Forest Resource Plan policies advocate older forest protections as habitat and for forest biodiversity.

DNR's current policy for wildlife habitat helps support native wildlife populations or communities. The policy directs the agency to find a balanced solution when trust objectives and wildlife habitat are in conflict. Through implementation of the HCP, the Department has identified many balanced solutions that address both listed and other species. Under the HCP, within 200 years the trees in riparian buffers will increase in age to more than 160 years old. Other HCP strategies involve the management of forest lands for northern spotted owls, which includes structural components of older forests through silvicultural prescriptions. No formal DNR policy currently exists for dealing with 150+ year older forests. The definition of old growth in the DNR's HCP is based on both age and structure (1997 HCP Appendix).

Alternatives to current management regimes may be considered by the Board, either separately or combined with other variables, and integrated into the reasonable alternatives to be examined in the EIS.

Landscape Level Issues

☒ Habitat Complexity. Commenters supported management for increased habitat complexity, both to the level specified in the HCP and in excess of the plan. There is interest in meeting a number of goals related to habitat complexity, including managing for biodiversity, forest structure, and landscape-level parameters.

Response: DNR has a number of HCP strategies in place to manage for habitat complexity. Maintained or restored under the HCP are northern spotted owl habitat, marbled murrelet habitat sites, riparian management zones and wetlands, and in western Washington, additional cave, talus field, cliff, bald, oak woodland, large structurally unique tree, snag and mineral spring habitat. The HCP strategies are designed to support the forested landscapes through active forest management practices that will produce a diverse living mosaic of forest types across landscapes.

Alternatives to current management regimes may be considered by the Board, either separately or combined with other variables, and integrated into the reasonable alternatives to be examined in the EIS.

☒ Stewardship. Comments requested the consideration of a mix of active and passive stewardship in one alternative.

Response: Various ways of applying active and passive stewardship strategies are being considered in the modeling process. Ultimately, they will be considered by the Board, either separately or in a combined fashion with other variables, and integrated into the reasonable alternatives to be examined in the EIS.

☒ **Set-asides.** Concerns were expressed about what forestland is in set-asides and how that affects the sustainable harvest level.

Response: The state Natural Area Preserve (NAP) system presently includes 26,400 acres in 47 sites distributed throughout the state. Preserves are established to protect rare native ecosystems and the at-risk plant and animal species within them. Western Washington preserves include five large coastal preserves supporting high quality wetlands, salt marshes, and forested buffers. Other preserve habitats include mounded prairies, sphagnum bogs, natural forest remnants, and grassland balds. Statewide, preserves range from 8 acres to 3,500 acres in size.

Forested NAPs and Natural Resource Conservation Areas (NRCAs) are included in the sustainable harvest model forest inventory database, although these areas are deferred from timber harvest. These areas are included to provide a board assessment of the conservation benefits of the DNR management on forested landscapes. In addition to the NAPs and NRCAs providing various habitats, the HCP also protects critical habitats for threatened and endangered species. For further discussion, see the above section on *Old Growth*.

A “zoned” habitat approach designates areas of the forest landscape for particular goals (such as reserves or ‘set-asides’ to achieve habitat), whereas, an “unzoned” approach provides areas that meet objectives across the landscape over time, but not always in the same place. DNR currently utilizes a zoned approach for the implementation of the HCP riparian strategies, northern spotted owl nest patches and interim owl circle protections and for potential and occupied marbled murrelet habitat. In accordance with the HCP, the Olympic Experimental State Forest (OESF) is designed to integrate production and conservation across the landscape, using what is commonly known as an unzoned forest approach. Management strategies using both zoned forest and unzoned forest strategies may be considered among options for reasonable modeling scenarios.

☒ **Biodiversity and Wildlife.** Commenters request that the model consider management for biological diversity, ecological processes, wildlife and wildlife corridors, and endangered species. An analysis of biodiversity pathway management is requested. Comments related to the management of particular species, with specific concerns about the northern spotted owl, marbled murrelet, salmon species, and their habitats.

Response: Management for wildlife and biological diversity is a priority for DNR. DNR has made clear that the calculation model will incorporate obligations pertaining to trust mandate, state and federal laws, and 1997 Habitat Conservation Plan including multi-species habitat protection for northern spotted owls, marbled murrelet and salmonids, among other native species. As such, the sustainable harvest calculation model will help DNR fulfill those mandates. As part of the modeling, DNR will examine different ways to achieve habitat objectives for these species. For further discussion on habitat, see the above sections on *Habitat Complexity* and *Old Growth*.

Alternatives to current management strategies may be considered by the Board, either separately or combined with other variables, and integrated into the reasonable alternatives to be examined in the EIS.

☒ **Riparian Areas.** Comments addressed the treatment of riparian areas (the buffers of trees and other vegetation that protect streams, lakes, and other water bodies), including the level of

management inside buffers. There is also concern about data quality of the GIS stream layer, and whether HCP goals are modeled.

Response: Both the state Forest Practices Rules and DNR's HCP provide rules and guidance for protecting surface waters and stream flow. The HCP resulted in greater protections for riparian areas in western Washington by allowing some deciduous and all young conifer forests within riparian areas to be managed to develop into older forests. The width of the riparian buffers along Type 1, 2, and 3 streams is based on the potential height of mature conifer trees in a stand at that particular site. In addition, under the HCP, a 100-foot-wide riparian buffer is applied to both sides of Type 4 waters, which are less protected under the state Forest Practices Rules.

The level of management activities inside riparian buffers, as well as mapping concerns regarding unmapped type 4 and 5 waters, are both being addressed in the modeling process. These issues, along with a number of other riparian-related issues (habitat, wildlife, water quality, etc.) may be considered by the Board, either separately or combined with other variables, and integrated into the reasonable alternatives to be examined in the EIS.

Wetland Areas. Commenters address the treatment of wetland areas and the ecological impact of harvest and road construction in and adjacent to wetland areas. There is concern that wetland areas be protected for tribal resources. There is also concern about wetland data quality and accuracy.

Response: Under DNR's HCP, there is to be no overall net loss of wetlands or their function. Important wetland functions that are protected under the HCP include, but are not limited to, the augmentation or addition of water into streams during low-flow seasons, and the capture and absorption of overflow water during peak storm flows.

Special consideration is given to the historical and cultural concerns of the tribes. DNR recognizes that Native American tribes have a special interest in state DNR-managed forests (Appendix F, Forest Resource Plan). DNR has an existing plan to address tribal and archeological resources, and will continue to work with the tribes to improve that process. The model does not map unidentified tribal resources, but DNR will rely on existing policies when tribal resources are discovered. Impacts to tribal and archeological resources will be assessed in the EIS.

The level of management activities inside wetland buffers and concerns about unmapped wetlands are both being addressed in the modeling process. Alternative approaches to these issues, along with a number of other wetland-related issues (habitat, wildlife, water quality, etc.) may be considered by the Board, either separately or combined with other variables, and integrated into the reasonable alternatives to be examined in the EIS.

Municipal Watersheds. Commenters requested that DNR use special management prescriptions for municipal watersheds where DNR manages five percent or more of the watershed.

Response: State Forest Practices rules require DNR to analyze the risks to public resources (which include water, wildlife, etc.). In many respects, DNR's existing policies — for example, its HCP requirements — are already significantly more protective of water quality than the Forest Practices rules. Additionally, DNR uses a variety of tools to evaluate environmental

impacts from its management activities. The sustainable harvest model incorporates a number of current strategies including riparian areas and unstable slopes that address water quality issues.

These are trusts lands (that help build public schools, or help fund county services in many counties). As such, assets cannot be taken from them without compensation to the trusts. Municipalities may request DNR to adjust how it manages trust lands in a watershed, as long as they are willing to fully compensate for increased costs, decreased land values and lost revenue to the trusts. Within the scoping comment period, no municipality has requested that DNR apply special management within their watershed. At this time, such specific requests have not been made, but would require separate environmental and financial analysis. See RCW 79.01.128(1).

☒ Unstable slopes. There is concern over activities within both deep-seated and shallow/rapid unstable slopes, and their treatment within the model.

Response: Provisions in both the Forest Practices Rules and the 1997 Habitat Conservation Plan guide DNR in special treatments to protect unstable slopes. Those requirements are modeled in the sustainable harvest calculations. Alternatives to current management regimes may be considered by the Board, either separately or combined with other variables, and integrated into the reasonable alternatives to be examined in the EIS.

☒ Cultural resources. Commenters requested that DNR consider protection of cultural resources, both registered and unregistered, including cultural and archeological sites, wetland and riparian areas, plant resources, and protection within tribal watersheds.

Response: Special consideration is given to the historical and cultural concerns of the tribes. DNR recognizes that Native American tribes have a special interest in state DNR-managed forests (Appendix F, Forest Resource Plan). DNR has an existing plan to address tribal and archeological resources, and will continue to work with the tribes to improve that process. The model does not map unidentified tribal resources, but DNR will rely on existing policies to respond to their discovery. Impacts to tribal and archeological resources will be assessed in the EIS. (See also section *Wetland Areas*, above)

☒ Roads. Concern exists about roads to be built, maintained, or abandoned. How DNR will maintain existing culverts was another issue. Additional concern was expressed about how DNR will estimate acreage for roads in the model.

Response: Road maintenance plans are a requirement under WAC 222-24, the state Forest Practices Rules that govern forestry roads. DNR continues to develop and implement its road maintenance and abandonment plans for state DNR-managed forests.

Improvements to meet fish passage standards in existing roads do not change the acreage involved in the calculation. The model uses the existing land base without additional restrictions associated with roads and road construction, maintenance, or abandonment. Because DNR does not know exactly where and how new roads will be built to reach currently un-roaded future timber harvest sites, new roads are not modeled in the sustainable harvest calculation. Road construction, however, will be assessed for potential environmental impacts in the EIS.

☒ **Recreation.** Commenters asked that DNR consider managing for recreation and multiple-use. One suggestion proposed the establishment of a trail corridor around DNR-managed lands abutting the Pacific Crest Trail.

Response: In 1974, the state legislature directed DNR to use the concept of multiple-use management where it is in the best interests and general welfare of the state and its citizens, is consistent with trust provisions of the lands involved, and is compatible with activities that fulfill the financial obligations of trust management (RCW 79.68.010).

Dispersed recreation hiking, biking, etc. is not directly modeled in the sustainable harvest calculation, however the impacts on forest management activities are accounted for in the model through GIS data and “fall-down” factors related to operational constraints. For example, areas around trails may retain more trees per acre at final harvest than under normal harvesting rules. In the EIS, potential impacts to recreation will be assessed.

Arrearage. Some commenters asserted that arrearage should be discussed as part of the sustainable harvest calculation. They want DNR to provide analysis of arrearage over the past decade and bring the arrearage forward without rolling it into 2003 calculation. Some want the arrearage examined by trust and by county.

Response: The arrearage question is related to, but separate from the calculation of the sustainable harvest level. RCW 79.68.045 directs DNR to conduct analysis of alternatives to determine a course of action regarding arrearage to provide the greatest return to the trusts based on economic conditions then existing or forecast, as well as the impacts on the environment of harvesting the additional timber.

Simply stated, the concept of arrearage is that if some trust land timber sales are not sold — or purchasers default on sales — it results in the sustainable harvest level not being met. If there is an arrearage, DNR will conduct an analysis and may add arrearage sales on top of the sustainable level during the next decade.

Arrearage analysis would need to be performed after the sustainable harvest calculation has been set for the next decade because, until the updated sustainable harvest volume is established, it is unknown if there is any arrearage volume available that meets the statutory tests. After the sustainable harvest calculation is completed, DNR will review management options related to any arrearage.

Assessing the environmental impacts associated with any arrearage is beyond the scope of the SEPA analysis for calculating the sustainable harvest level for the coming decade.

Ownership Groups. Commenters are concerned as to how ownership groups (individual trusts or groups of trusts) will be handled whether trusts will be considered individually or grouped. Interest was expressed both in examining the Forest Board Transfer forest lands individually by county and in exploring benefits of combining them in some way.

Response: DNR’s current direction is established in Policy #6 (Western Washington Ownership Groups) of the 1992 Forest Resource Plan. It directs DNR to establish a sustainable even-flow harvest level for: Forest Board Transfer Lands by individual counties, Federal Grant Lands and

Forest Board Purchase lands by DNR administrative regions, the Capitol State Forest, and the Olympic Experimental Forest.

The Board has expressed a clear interest in examining the current ownership groups and having a trust-by-trust analysis of the financial and other impacts of each reasonable alternative. Harvest calculations will likely be modeled at several levels from which trust by trust impacts will be derived. An analysis of selected ecological, financial and economic impacts to each trust may also be completed for each alternative.

Certification. Commenters requested that DNR model a Forest Stewardship Council scenario or another green certification option. Others suggested that DNR should not pursue green certification.

Response: DNR stated that it will not consider certification of DNR-managed forests as part of the sustainable harvest calculation process. Certification will be considered in a parallel process. If DNR and the Board pursue certification at a later date, it will evaluate its impact to harvest levels at that time. It is likely, however, that some or most of the management activities that would meet the requirements for Forest Stewardship Council or other certification processes will be included in the sensitivity analysis of Tier 3 and may be reflected in the chosen reasonable alternatives.

This approach will not foreclose the Board's option to pursue certification in the future.

ENVIRONMENTAL IMPACT ANALYSIS SUGGESTIONS

General. There was concern expressed over what would be included in the EIS, and the timeframe which the analysis will consider. Specific concern was expressed that the SEPA rules (as laid out in the Washington Administrative Code WAC) should be interpreted broadly. There were requests that DNR evaluate the current management regime and (tree) age-class distribution on trust land forests, and analyze impacts for the entire 200-year modeling period.

Response: The Environmental Impact Statement (EIS) for DNR's sustainable harvest calculation will be written according to the State Environmental Policy Act (SEPA) rules. It will evaluate impacts — direct, indirect, and cumulative — to the natural and built elements of the environment (WAC 197-11-444). As required by SEPA, reasonable alternatives and a “no action” alternative (representing current management policies) will be evaluated in the EIS. The contractor writing the EIS will evaluate potential significant impacts to the environment over the 10-year timeframe of the proposed action.

Water quality. DNR is asked to consider the potential environmental impacts on water quality due to forest management, including chemical fertilization; also address impacts to shade in riparian areas, stormwater and its management, drinking water, and municipal watersheds. There was concern that DNR use “good science,” and protection for physical, chemical and biological components of water quality.

Response: Potential impacts to water quality will be examined in the EIS [WAC 197-11-444(1)(c)]. Potential impacts of forest management strategies on riparian and wetland areas, stormwater management, and public water supplies will be evaluated. The Department of Ecology co-adopts a number of Forest Practices Rules to meet Clean Water Act requirements; all

DNR operations meet or exceed Forest Practices Rules. DNR and the contractor writing the EIS will use informed science in evaluating potential water quality impacts.

Soil quality. DNR was encouraged to evaluate the causes of soil degradation and impacts to long-term soil productivity.

Response: Soils and other physical components of the natural environment will be examined in the EIS [WAC 197-11-444(1)(a)]. Soils will likely be addressed in several sections, including earth resources (including erosion) and fish and wildlife habitat. Possible impacts on soil degradation and long-term soil productivity will be assessed.

Air quality. DNR was encouraged to evaluate the potential impacts of reduced carbon sequestration on air quality, and the burning of slash.

Response: Potential impacts to air quality will be examined in the EIS [WAC 197-11-444(1)(b)].

Riparian Areas. DNR was encouraged to evaluate the potential impacts of logging, road building, and other forest management activities on riparian structure and function. Include impacts to all elements of habitat of native aquatic and terrestrial species.

Response: Potential impacts to riparian areas will be examined in the EIS [WAC 197-11-444(1)(d)]. Forest management activities will be evaluated for impacts to riparian and upland habitat structure and function.

Sensitive Areas. Commenters asked DNR to examine potential impacts to unstable slopes and other sensitive areas and the benefits of no-cut buffers and wind buffers on unstable slopes.

Response: Potential impacts to unstable slopes and other sensitive areas will be examined in the EIS [WAC 197-11-444(1)(a)]. Sensitive areas to be assessed for potential impacts include unstable slopes, riparian and wetland areas. Mitigation of adverse impacts to sensitive areas will be assessed.

Biodiversity, Wildlife Habitat and Species. DNR is asked to examine potential impacts to biodiversity, habitat (fragmentation), plant species, endangered species (including marbled murrelet), non-listed species (Roosevelt elk, black bear, bobcat, etc.), and fish habitat. Particular comments related to meeting the goals of the 1997 HCP and use of the best credible science in determining impacts.

Response: Potential impacts to native plants, fish and wildlife, and their habitat will be examined in the EIS [WAC 197-11-444(1)(d)] for known sites. Additionally, conservation benefits will be assessed for the various alternatives in a separate process. Separate from the formal EIS process, DNR staff will analyze and provide the Board with information on how (according to the model) the alternatives will meet the objectives of the 1997 HCP. The assessment will help DNR evaluate the effectiveness of proposed HCP strategies for each alternative.

Cultural and Archeological Resources. DNR is asked to protect cultural and archeological resources from potential impacts of timber harvest activities, and classify such areas as “off base.”

Response: Potential impacts to cultural and archeological resources will be examined in the EIS [WAC 197-11-444(2)(b)]. Policy #24 (Identifying Historic Sites) in the Forest Resource Plan addresses DNR policy on the identification and preservation of cultural and archeological resources. In particular, DNR remains committed to working with tribal governments and continuing to develop and maintain effective programs for protecting areas of cultural significance.

See also section on *Wetland Areas* (above).

Roads. DNR is asked to address the impacts of new roads, maintenance of old roads, and road decommissioning.

Response: During the EIS process, potential impacts on a number of components of the natural and built environments resulting from road building, maintenance, and abandonment or decommissioning will be examined [WAC 197-11-444(1) and (2)].

Population. Commenters asked that DNR address the potential impacts due to population growth and conversion or development of DNR-managed lands, or those adjacent to DNR-managed lands.

Response: The setting of sustainable harvest level will not have a significant impact on population growth; however, DNR anticipates that timber harvesting activities in close proximity to growing population centers could conflict with other land uses.

Cumulative impacts. DNR is asked to consider cumulative impacts across the landscape and within a watershed due to timber harvest practices, both past and present. There is an interest in DNR analyzing large-scale forest health on DNR-managed lands.

Response: Potential cumulative impacts will be assessed in the EIS, consistent with the requirements of SEPA [WAC 197-11-060(4)(e)]. Large-scale forest health issues are included for examination of cumulative impacts. DNR recognizes the importance of examining potential cumulative impacts, and the complexity of assessing cumulative impacts across an area as sizable and diverse as western Washington, which obviously includes many landowners. DNR will be working with the EIS contractors to develop some strategies to assess how the differing EIS reasonable alternatives lead to different levels and types of impacts, including cumulative impacts.

Recreation. DNR is asked to examine the potential impacts to recreation, including integration with forest management, location of harvests relative to recreation areas, and differentiation between harmful and benign recreation uses. There is specific interest in adding hiking trails and maintaining their use in relation to harvest areas.

Response: Potential impacts of proposed harvest level alternatives to the recreational use of state DNR-managed forests will be assessed in the EIS [WAC 197-11-444(2)(b)(v)]. However, recreation planning is outside the scope of this EIS, and will not be assessed.

Fire hazard. Requests were made for DNR to examine the impacts of the timber harvest level on fire management and fire danger reduction. Using science, commenters want DNR to address restoring fire to ecosystem, and communicate this information to the public.

Response: Potential impacts of proposed alternatives on fire management and fire danger reduction will be assessed in the EIS [WAC 197-11-444(2)(d)]. Though the sustainable harvest calculation for western Washington will not include the use of fire to promote ecosystem health, the EIS will evaluate the extent to which management strategies in alternatives may impact catastrophic wildfires in DNR-managed forests.

Aesthetics. Some commenters asked that DNR consider impacts to scenic values, including size and shape of clear-cuts and their location relative to highways. Others did not want viewsheds to be considered.

Response: Potential scenic and aesthetic impacts of proposed alternatives will be assessed in the EIS [WAC 197-11-444(1)(e)(v) and (2)(b)(iv)]. The sustainable harvest calculation will not include site-specific harvest plans that can be evaluated for their scenic impacts. Alternatives may, however, include different patterns of harvest at a landscape level, and such potential impacts will be assessed.

ANALYSIS OF SELECTED FINANCIAL AND ECONOMIC IMPACTS

Wood Products Market. Commenters want a predictable, dependable amount of raw material for mills, perhaps taking into account private timber and its impact on local mills. Some commenters believe that changes in harvest levels have an impact on customer base and that DNR should consider wood product markets for Forest Stewardship Council certified wood products, hardwoods, and exports. Still others believe that continued population growth is not a good indicator of consumption patterns.

Response: The wood products market and DNR's role in the market will be studied to some degree. Alternatives will be examined to assess likely marketable products. A market analysis will be presented to the Board as part of the information they are given to help choose a preferred alternative.

Log Size Market. Considerable disagreement exists about the market for larger diameter logs, both now and in the future. Some express concerns that DNR reflect an inventory in the computer model of the current log market of less than 25-inch diameter trees, while others foresee DNR helping to retain a large diameter log market, effectively cornering the market, while lowering operation costs (associated with thinning).

Response: As the manager of the state trust lands, it is DNR's responsibility is to protect the trusts, and to provide options for current and future trust revenue production. DNR cannot predict with confidence what will happen to log markets or the future ability of mills to process large-diameter logs. However, DNR has an interest in future markets.

DNR will consider the range of alternatives run through the EIS process with respect to the products market, as it exists today, with some basic assumptions about future markets. The Board will receive this analysis as part of the information they are given to choose a preferred alternative.

Analysis of Financial Return to the Trusts. Commenters suggest that DNR analyze the economic, social, and ecological health impacts to forests to determine the impacts (present and future) from the different scenarios. Commenters want a clear discussion in the EIS of analytical assumptions, costs and benefits of scenarios in dollars, including discount rates (positive and negative proposed) used within net present value (NPV) calculations and opportunity costs of various constraints (including sensitivities to shadow costs). Commenters suggest using the Washington Investment Board's recommended discount rate and prepare alternative price scenarios for review by policy makers; in comparing rotational ages, evaluate short and long term financial impacts, including management costs; suggest using biodiversity pathways to compare increases in habitat and rotation age on timber returns; examine overhead costs of operations.

Response: As stated above, analyses of financial and economic impacts will include an examination of forest and tree harvest policy alternatives and their potential impacts on returns to the trusts. A range of discount rates may be given to the Board as part of NPV calculations. The Board will receive this analysis as part of the information they are given to help choose a preferred alternative.

Social, Financial and Economic Consequences

General. Commenters want an analysis to consider social benefits along with short and long-term benefits and include indirect and external costs, using best available science.

Costs of Harvest. Commenters are concerned with the regional differences in harvest levels. Commenters want DNR to consider economic impacts of timber harvest on recreation, local economy, adjacent property values, and rural communities generally. Others want DNR to recognize the total costs of harvest (such as recovery of sediment-damaged streams), the costs of restoration and flood control, and the economic value of non-timber resources. There are others who are concerned that DNR will not have enough money to manage within the current state budget.

Response: DNR is interested in looking at the social, financial and economic consequences of different harvest levels. Analysis will be restricted, however, to an assessment of primary impacts (i.e. financial returns to the trusts from land management). Analysis of secondary and other indirect effects, such as those to rural communities and impacts to services provided by trust beneficiaries (the counties or schools, for instance) will be discussed in terms of their potential environmental impact in the EIS [WAC 197-11-444(2)(d)].

Social and Economic Consequences Costs of Endangered Species Recovery. DNR is asked to analyze the costs of protecting watersheds and the recovery of threatened and endangered species and its impact on rural communities that are now suffering economic hardship.

Response: DNR is interested in the environmental, social, financial and economic consequences of harvest on endangered species recovery. The HCP was created to provide habitat to assist in the recovery of Endangered Species Act listed species (e.g., the northern spotted owl and marbled murrelet), and to minimize risks to the trusts associated with ESA compliance.

However, analysis of costs associated with the recovery of threatened and endangered species and impacts on rural communities is outside the scope of the EIS.

Alternative Sources of Trust Revenue.

General. Some commenters want DNR to consider non-harvest forest products, while others don't want DNR to set aside land to be unavailable for timber harvest in the future. Others would pay higher taxes to replace timber revenue rather than see forests managed unsustainably.

Recreation. Commenters want DNR to consider and clearly understand tradeoffs between managing the forest for recreational revenues vs. managing to maximize timber harvest revenue. Some suggest user fees for recreational use, while others oppose more fees for recreation. Others are concerned that recreational fees will not generate enough money for trust beneficiaries to replace timber harvest.

Carbon Sequestration. Some suggest that carbon sequestration should be analyzed because it could be a significant revenue producer. Analyze carbon sequestration from a young forests vs. old forests standpoint, as young forests sequester more carbon.

Certification. Consider forest certification as a way to increase revenue.

Other Sources. Commenters want DNR to consider other funding sources, including creative leasing, no-interest bonds, industrial hemp farming, development of wind power, biomass conversion and co-generation, and having schools raise their own funding. Others would like a discussion of the economic impacts of expanded special forest products and small wood utilization.

Response: DNR will examine alternative sources of trust revenue as part of its analysis. Also considered for examination are some "opportunity costs" associated with timber harvest forgone revenue from alternative potential forest revenue sources. Revenue from sources including recreation (fees), the carbon credit market, and any premium for certified wood may be examined as alternative sources of income to compare against timber harvest.

Impacts outside DNR's purview (school construction, tax structure, and agriculture) will not be considered. DNR will use net present value analysis to evaluate alternative sources of trust revenue. Any decision to pursue alternative sources of trust revenue is at the discretion of the Board or state legislature.

B. ISSUES AND CONCERNS WITHIN BOARD OF NATURAL RESOURCES AND DNR'S PURVIEW, BUT OUTSIDE THIS SUSTAINABLE HARVEST CALCULATION ACTION

Forest Certification. Commenters want the Washington State Department of Natural Resources to be a national leader and to pursue forestry certification through Forest Stewardship Council, Sustainable Forestry Initiative, or development of a DNR self-certification process.

Response: DNR is committed to managing the state's trust lands with high environmental and business standards. The Board has indicated that, in a process separate from the determination of a sustainable harvest level, it will address certification. Proceeding in this manner will not foreclose on the Board's option to pursue certification in the future.

Recreation Planning. Commenters would like to see the forests used for recreation through better planning that identifies economic benefits and cost of recreation use. Commenters would like to have buffered trails. Some are concerned with the environmental costs of off road vehicle (ORV) use, while others want more ORV trails and campgrounds. Still

other commenters suggest that DNR-managed lands be opened up to privately maintained ORV areas.

Response: Forest Resource Plan policy #29 addresses the issue of recreation on state DNR-managed forests, which historically are open to the public through state law and long-standing DNR policy. DNR carries out recreation planning using funding from a grant program through the Inter-Agency Committee for Outdoor Recreation. (For example, Capitol State Forest recreation planning currently underway has a volunteer citizen advisory group that represents many different recreational interests)

In addition, several initiatives are underway to address recreation and public access issues. A task force — comprised of leaders from state agencies (state Parks and Recreation Department, state Department of Fish and Wildlife, and DNR) and state legislators — has been created to seek a better balance of public and commercial (trust) uses of DNR-managed lands. In addition, the Commissioner of Public Lands has proposed the creation of a new land trust to fund public access on state lands. Lastly, DNR strategic planning is examining ways to implement public trails on DNR-managed lands.

Public Access. Some commenters want public access closures to be considered, because of the negative environmental impacts, while others want more access and limited access on roads.

Response: Forest Resource Plan policy #25 allows public access for multiple uses on state forest lands. In certain circumstances, DNR will control vehicular or other access, but only where necessary to accomplish specific management objectives. Public access may be limited to protect public safety, to prevent theft, vandalism and garbage dumping, to protect soils, water quality, plants and animals, or to meet other objectives identified in the Forest Resource Plan.

The “multiple use concept” (RCW 79.68.010) allows public use of DNR-managed forests when compatible with management activities and when it does not damage resources or interfere with trust management responsibilities.

Community Involvement. Commenters are concerned about the impact of recreational users on adjacent private property owners. They say that recreational use should be compatible with adjacent landowner concerns and there should be a policy to address this issue.

Response: DNR is also concerned with the potential impact to adjacent landowners from recreational activities on DNR-managed lands. DNR incorporates community involvement when planning for recreational use on DNR-managed state lands. The DNR has a ‘stewardship’ philosophy. As stewards of the land, DNR safeguards the natural and scenic value of the trust lands, including protecting against the impacts of land use activities on adjacent property owners. Planning activities are the responsibility of the DNR regions; specific concerns should be addressed to specific DNR regions.

Public Education. Commenters believe that the general public needs to be educated on the constraints used to determine timber harvest levels.

Response: DNR staff is aware that many levels of understanding exist regarding forest management activities in state DNR-managed forests. A greater public understanding of the process and DNR’s responsibilities will likely be one of the outcomes of the extensive public involvement processes that is part of the sustainable harvest calculation. In addition, DNR will continue to work with the public through various forms of public outreach.

Research. Commenters are concerned with the lack of DNR biologists and geologists, and suggest hiring more. Still others suggest that state DNR-managed forests should foster forestry research on management practices, Cooperative Monitoring Evaluation and Research (CMER), and related data collection. A commenter also suggests DNR examine the role of DNR-managed state land in providing corridors of low elevation forest creating a link from saltwater up to old-growth forests on federal lands.

Response: DNR has a diverse staff representing a broad range of technical expertise, including biologists and geologists. In addition, DNR is committed to working closely with specialists in other organizations and agencies such as the Washington Department of Fish and Wildlife. The Department's objective is to make forest management decisions based on sound science and currently available information. According to the Multiple Use Concept, state forest lands are maintained and managed for a variety of uses, including research. However, DNR does not have the resources or the legal mandate to research all issues common to land management, independent of ownership.

Asset Stewardship. There are a number of commenters who want DNR to maintain the state land base intact (without further sale or exchange of lands). Others thought the state should sell or trade state-owned environmentally sensitive lands to the highest bidder. Commenters are interested in DNR terminating grazing leases in eastern Washington.

Response: As provided by law and trust mandate, DNR uses a variety of tools to create trust revenue. The Trust Land Transfer allows DNR to transfer to other owners assets with unique ecological or public value. Trust lands with low productivity (due, for example, to poor soils or site class), or high management may be exchanged or sold. If transferred or sold, replacement properties of higher long-term value to the trusts are purchased. Repositioning also occurs via land exchange or land sales. These are Board-approved activities, and are dealt with in separate processes from the sustainable harvest calculation.

Site Specific Concerns. Commenters had concerns about site-specific DNR-managed trust lands, including Lake Whatcom, Loomis, Burnt Hill, Blanchard Mountain and the Upper Hoh River.

Response: The sustainable harvest calculation currently being undertaken includes the 1.4 million-acre landscape of DNR-managed forests west of the Cascade Crest. Specific and localized management decisions will not be addressed as part of the sustainable harvest calculation EIS. It should be emphasized that the sustainable harvest calculation is not a harvest schedule planning process it is not a tactical planner that identifies individual timber sales. The calculation is a policy simulation tool that is used to assess policy implications of various alternatives. Once approved by the BNR, the results set the broad landscape-scale harvest level for the next decade. It will include no site-specific plans for the areas mentioned, or any other land blocks. DNR regional staff addresses planning for the aforementioned state forest blocks in separate planning processes.

Timber harvest calculation for Eastern Washington DNR-managed forests. Commenters want the eastside calculation done as soon as possible and to consider forest health issues to determine the sustainable yield level.

Response: DNR plans to develop the sustainable harvest calculation for eastern Washington DNR-managed forests after the completion of the western Washington calculation. Once DNR has compiled the data necessary for the eastside calculation, work on it will begin. As with the current westside effort, forest health issues will be addressed in the determination of a sustainable harvest level.

Forest Resource Plan Tribal Policy. Commenters asked for tribal government-to-government relationship to implement the Forest Resource Plan policies

Response: DNR is committed to a respectful government-to-government relationship when working with tribal governments. DNR works with tribes to implement goals identified in the Forest Resource Plan, including the sustainable harvest calculation.

Other Issues. Commenters want timber sales auction prices to be inclusive of all costs; find alternative funding to pay for the protection of drinking water resources on DNR-managed state lands; reintroduce fire in ecosystems; consider grazing in Natural Resources Conservation Areas; start another experimental forest (such as the Olympic Experimental State Forest) based on stakeholder management; and stop hunting in certain areas of the forest.

Response: A number of DNR programs work to address the above issues within their responsibilities. DNR remains committed to working with the public and stakeholders to create innovative programs to better manage our state lands while fulfilling DNR's legal responsibilities.

DNR is interested in comments on the management of the forests in its care. However, these issues are not within the scope of the sustainable harvest calculation.

C. ISSUES AND CONCERNS THAT FALL OUTSIDE BOARD OF NATURAL RESOURCES AND DNR PURVIEW

Rural community economics. Consider timber harvest levels on DNR-managed state trust lands and their secondary and indirect impacts on rural communities. In particular, examine impacts from changes to harvest levels on employment, community stability etc. Commenters want the model to incorporate impacts on rural communities, such as non-extractive forest uses.

Response: DNR and the Board's duty is the long-term interests of the trusts, which benefit the local communities in many ways. However, the secondary impacts of harvest levels are outside of the purview of the sustainable harvest calculation process. DNR and the Board will assess primary financial and economic impacts of DNR actions relating to setting a sustainable harvest level.

Greater Washington State economy. Commenters want DNR's role examined in the context of stability of the state economy and school funding. Commenters also expressed a concern about positive impacts on growing economy as a result of a healthy environment (company relocation, tourism), and encouraged making decisions that meet the needs of citizens, not corporations.

Response: The DNR has limited statutory or constitutional authorities that are largely focused on management for the specific and direct benefit to the trust beneficiaries. DNR manages trust lands with that responsibility as its guiding principle.

National and global context. Examine the impacts of the sustainable harvest level for DNR-managed forests on the global economy, global wood products market, global impacts of using alternatives to wood products (particularly as it relates to the use of fossil fuels). Also look at global environmental impacts, such as the impact of timber harvested unsustainably in other countries.

Response: DNR is not able to assess effects of DNR actions on global markets, impacts, or trends, nor can it guide its actions based on those factors. Since harvest on DNR-managed lands is small relative to domestic and global wood consumption, recalculation of the sustainable harvest level is unlikely to have a discernable effect on the global economy or global wood products market.

State and Federal Legislative. Some commenters said DNR should eliminate the export ban or support the export ban, remove the tie between school construction funding and trust land timber harvest and identify other sources to replace that funding, create a law to protect old growth, and educate the public about relationship between harvest level and higher taxes.

Response: The export ban is federal legislation. DNR is not in the position of determining state or federal legislative actions. DNR has provided significant protection of older forests through carrying out objectives of the Forest Resource Plan, and using the Trust Land Transfer program.

Other Issues. There is interest in DNR's role in county and municipal planning, recreation outside of trust lands, assessing impacts on all lands, education of the public on behalf of the forest industry, public school design and administration, the Growth Management Act, and climate change.

Response: These issues are beyond the scope of the EIS and the sustainable harvest calculation.