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**APPEAL TO THE REGIONAL FORESTER  
(503) 283-6343 OF THE UNITED STATES FOREST SERVICE  
REGION 6**

BARK,  
ONRC

APPELLANTS

vs.

LINDA GOODMAN, REGIONAL FORESTER,  
DECIDING OFFICER.

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)  
) 36 CFR § 215 Appeal  
) In Re: Appeal of the  
) Environmental  
) Assessment, Decision  
) Notice, and FONSI for the  
) **Slinky Environmental**  
) **Assessment**  
)  
)  
)  
)

APPELLANT'S: NOTICE OF APPEAL, REQUEST FOR STAY, REQUESTED RELIEF, AND  
STATEMENT OF REASONS

Dated this 13<sup>th</sup> day of November, 2003

**NOTICE OF APPEAL**

To: Appeal Deciding Officer  
Ms. Linda Goodman, Regional Forester  
Region 6, U.S. Forest Service  
ATTN: 1570 APPEALS  
P.O. Box 3623  
Portland, Oregon 97208-3623

Dear Ms. Goodman

In accordance with 36 CFR 215, Bark hereby appeals the decision to implement Alternative B of the Slinky Environmental Assessment (“Slinky EA”) and the Finding Of No Significant Impact (“FONSI”), signed by the Mt. Hood National Forest (“MHNF”) Acting Forest Supervisor, on September 29, 2003.

Decision Document: Slinky Environmental Assessment, Decision Notice, and Finding of No Significant Impact.

Decision Date: September 29, 2003.

Responsible Official: Kathryn J. Silverman, Acting Forest Supervisor, MHNF.

Appeal Period End Date: November 13, 2003 (see official Notice of Decision).

Description of the Project: 184 acres reserve shelterwood regeneration, including manual and machine piling and burning of logging slash; 4 mile of temporary road; several miles of road reconstruction including spot rocking and brushing, aggregate surfacing and deep patch repairs.

Location: Near Oak Grove Butte within T. 6 S., R. 7 E., W.M., Clackamas County, Oregon.

Appellant’s Interests:

Bark and ONRC have a specific interest in this sale, and that interest will be adversely affected by this timber sale. We have previously expressed our interest in this specific sale, and have standing to appeal this decision according to 36 CFR § 215.11 (a)(2). Bark is a non-profit organization based in Portland, Oregon and has worked to protect the Mt. Hood National Forest since 1999. ONRC has worked to protect the Mt. Hood National Forest for over two decades. Members and staff of Bark and ONRC live in the communities surrounding the Mt. Hood National Forest and use the Forest extensively for recreation, viewing wildlife and wildflowers, municipal water, hunting, fishing, overall aesthetic enjoyment, and other purposes. Specifically, members and/or staff of Bark and ONRC have used the Slinky Project area. The value of the activities engaged in by Bark and ONRC members and staff will be irreparably damaged by this project. We have a long-standing interest in

the sound management of this area, and the right to request agency compliance with applicable environmental laws.

## **REQUEST FOR STAY**

Although an automatic stay is in effect for this sale as per 36 CFR 215.10(b), we formally request a stay of **all** action on this project, including sale preparation, layout, road planning, any advertising, offering for bids, auctioning, logging, road construction, or other site preparation by a purchaser pending the final decision on this appeal.

A full stay is essential to prevent unnecessary expenditure of taxpayers' money, an irretrievable commitment of agency resources, and irreversible environmental damage. Without a stay, the federal government may waste taxpayer money preparing a sale that may later be cancelled. Because we intend to pursue our legal challenge to this sale with or without this stay, offering this timber sale may unnecessarily expose the government to liability and the purchaser to financial losses.

## **REQUESTED RELIEF**

1. Declare the Finding of No Significant Impact invalid.
2. Withdraw the Decision Notice.
3. Prepare a Finding of No Significant Impact and Decision Notice implementing **Alternative A** of the Slinky Environmental Assessment.
4. Modify the sale to meet the objections presented in Appellants' Statement of Reasons and consistent with the National Environmental Policy Act, National Forest Management Act, these statutes' implementing regulations, and the Mt. Hood National Forest Land and Resource Management Plan (MHLRMP) as amended by the Northwest Forest Plan
5. Prepare an Environmental Impact Statement (EIS) that includes:
6. Defer the Slinky project until monitoring of Management Indicator Species (MIS) populations has been conducted on the entire Mt. Hood National Forest. A full description of where key habitat exists in each district for each MIS in the MHLRMP should be developed for the Mt. Hood National Forest.

## **STATEMENT OF REASONS**

### **INTRODUCTION:**

The Slinky project planning area is approximately 184 acres and is located primarily in the Harriet Lake and Kink Creek subwatersheds of the Oak Grove Fork. Approximately 28 acres lie within the Austin Subwatershed of the Upper Clackamas River. The Environmental Assessment ("EA") for the

Slinky project analyzed four alternatives: Alternative A (no action), Alternative B (proposed action, the alternative subject to this appeal), Alternative C (identical to Alternative B except that it would not construct any new temporary roads) and Alternative D (same unit boundaries as Alternative B but instead of leaving 10-12 trees per acre, would leave 30 of the largest and oldest trees per acre).

The Appellants believe Acting Forest Supervisor Silverman's EA, FONSI and DN are in error and not in accordance with the legal requirements of the National Environmental Policy Act (NEPA), 42 U.S.C.4321 *et seq.* and its implementing regulations; The National Forest Management Act (NFMA) 16 U.S.C. 1600 *et seq.* and its implementing regulations; the Administrative Procedures Act, 5 U.S.C. § 706; the Mt. Hood Forest Plan (MHLRMP); and the Forest Service Manual.

## **REASONS:**

### **I. The Slinky Timber Sale Will Not Meet The State Purpose And Need Of The Project**

The Forest Service (USFS) claims that the purpose and need of the Slinky Sale is:

to regenerate older forest stands that are fragmented and growing slowly, to create young productive forest stands, and to provide forest products consistent with the Northwest Forest Plan goal of maintaining the stability of local and regional economies now and in the future. This action is needed, because the project area contains fragmented stands of older forest that are growing slowly due to the effects of diseases, insects and mortality. If no action were taken these stands would continue to grow slowly and would not contribute to a sustainable supply of forest products (EA, 2)

The USFS does not need to log old growth in order to provide a sustainable supply of timber to the local economy; however, the purpose and need statement predetermines that old growth be logged. The USFS *does* need to comply with all applicable environmental laws in carrying out its projects, and as demonstrated below, the Proposed Action does not comply with all applicable laws and should not go forward. Additionally, the timber project does not meet the stated purpose and need of the project and therefore should be abandoned. The MHNF should prepare an environmental impact statement fully disclosing and explaining the impacts from the proposed action.

### **A. The Forest Service fails to support its contention that the proposed project is necessary for local economies, or will contribute to the health of the local economy**

The EA is incomplete because it does not provide an adequate economic analysis of the proposed project. NEPA requires the agency to "identify and develop methods and procedures . . . which will insure that presently un-quantified environmental amenities and values may be given appropriate consideration in decision making along with economic and technical considerations." 42 U.S.C. § 4332(2)(B). The regulation implementing this statutory section states that while a cost benefit analysis is not *required* for a project, if it is "relevant to the choice among environmentally different alternatives being considered for the proposed action, it *shall be* incorporated by reference or appended to the statement as an aid in evaluating the environmental consequences." 40 C.F.R. § 1502.23 (emphasis added). The administrative record of the Slinky timber sale is devoid of any analysis or other statements regarding how the agency concluded that the proposed project would be

beneficial to the local economy. Given the significantly altered situation in the region (i.e., mill closures and a lack of demand for wood fiber), the proposed project should be withdrawn.

The EA does not include all costs incurred by the proposed project. For example, the EA only includes expenditures such as the cost to prepare the project (including administrative overhead, publication costs, survey costs, tree marking costs, etc.), but does not include expenditures such as ongoing monitoring, and future potential aquatic and terrestrial mitigation measures (EA, 65)

The EA also lacks analysis that shows that this specific sale meets social and economic needs of the *local* economy. It does not indicate how many jobs would be created at what wage or where they would be created. It does not indicate whether the timber from the project will be milled in Clackamas County or exported to other locales, or whether the loggers for the Slinky project will be hired from the local communities. Timber companies might not hire local loggers to cut timber on the Slinky sale; therefore, how can the USFS claim that jobs that benefit the local communities will be created from this project? The USFS must conduct a local economics analysis of the project, regardless of whether a regional analysis was conducted for the NWFP. Moreover, if the USFS is tiering to the NWFP's analysis, then all significant new information that has developed since 1993-1994 needs to be incorporated into the economics analysis, and this information is not reflected in the EA.

Political events indicate that providing money to the counties affected by the proposed project should not be a driving issue in whether or not the USFS should implement the proposed project. Recently, The Secure Rural Schools and Community Self-Development Act became law. This legislation reduces the amount of funding that counties with large percentages of federal land ownership receive from the federal government in lieu of the ability to assess property taxes. While we believe that payments to counties should be fully decoupled from federal timber receipts, this most recent legislation suggests that the Mt. Hood National Forest should rethink its assessment that the Slinky Timber Sale will provide sustainable or significant financial resources to the local economy.

While timbering is still an important sector of the economy, the community in Clackamas county is no longer exclusively timber-dependant: that is, timber production and milling, while still sources of income, are no longer the primary source of income for most of these localities. PACIFIC NORTHWEST RESEARCH STATION, *County Portraits of Oregon and Northern California* (September 1996), 76-87. Fishing, government support, and tourism now provide greater revenue to these counties than the forest products industry. *Id.*

Similarly, in assessing the impact of the agency's Roadless Area Conservation policy, the Forest Service also concluded that there are no timber dependent communities located within or affected by activities on Mt Hood National Forests. *See generally* United States Forest Service, *Roadless Area Conservation Specialists Reports* (visited May 4, 2001) [,http://roadless.fs.fed.us/documents/feis/specrep/socioecon\\_specialist\\_entire.pdf](http://roadless.fs.fed.us/documents/feis/specrep/socioecon_specialist_entire.pdf)>. Mechanization in logging and automation in milling has permanently eliminated forest products jobs. Even during the peak logging years (1978-1988) in the Pacific Northwest, there was a 20% loss of forest products jobs. Therefore, we seriously doubt the validity of the claim that the proposed project is necessary to provide timber to local economies, especially given recent mill closures in the vicinity such as Boring.

All evidence suggests that the proposed project will not result in a positive income if all future costs are considered. The USFS never substantiated that recovering the economic value of the trees and providing timber to the economy was necessary. There is no indication that there is any specific demand for the trees that would be logged under the Slinky proposed action that could not be satisfied from private lands. While we fully understand the impetus for national forests to meet probable sale quantity targets (which are merely estimates, not volume output requirements), stating that one purpose and need for a project is to provide timber to an already-glutted market only serves to perpetuate the Forest Service's reputation for subsidizing the timber industry.

Moreover, the General Accounting Office has recently remarked that the accounting system of the Forest Service is essentially worthless because it cannot accurately account for expenses and incomes. *GAO Financial Management Report*. In this report, the GAO stated that the Forest Service has been unable to clearly identify the costs of the federal timber sale program, and that the timber sale program is likely losing money. The Mt. Hood National Forest has not demonstrated that it has overcome this deficiency. Given this situation, we question the rationale to proceed with such project that will have detrimental impacts on the resources in the planning area.

NEPA requires the Forest Service to use a qualified, interdisciplinary team to prepare environmental analysis documents. 40 C.F.R. § 1502.6 ("shall be prepared using an inter-disciplinary approach which will insure the integrated use of the natural and social sciences and the environmental design arts (section 102(2)(A) of the Act). The disciplines of the preparers shall be appropriate to the scope and issues identified in the scoping process (§ 1501.7)"). The Forest Service Manual, while not legally binding on the agency, also states that "the team must have the expertise to identify and to evaluate the potential direct, indirect, and cumulative social, economic, physical, and biological effects of the proposed action and its alternatives. FSH 1909.15.12.01, 12.1.

Economic issues affecting the timber industry as well as businesses that benefit from the many non-timber uses of the Mt. Hood National Forest are highly significant issues in the EA. The issues are complex, and require a considerable amount of expertise to be adequately addressed. For example, the EA characterizes the no action alternative as having no economic value whatsoever. (EA, 65) However, as stated above, such benefits and costs are not difficult to quantify for a trained economist and should be addressed by the USFS.

Economics can be very complex, and require experts in the field to do such analysis. As far as we can tell, there is no economist, nor sociologist on the interdisciplinary team, and no economic resources used to develop this EA. See List of Preparers (EA, 78) and References (EA, 79-82). We find it stunning that a project that relies almost in full on an economic argument would not have done an economic analysis at the outset to determine whether the proposed action meets those needs. We question how the agency can make a reasoned assessment regarding the socio-economic impact of the proposed project. This glaring omission makes a mockery of the NEPA process and casts doubt over any economic basis for the proposed project. The project should be corrected in an Environmental Impact Statement, or withdrawn until this omission is corrected. The failure to do so violates NEPA and the APA. 5 U.S.C. § 706(2)(A)

### **B. The Timber Sale Does Not Capture The Highest Present Net Value Of The Timber Resource**

In making the site-specific decision to implement the Slinky Timber Sale, the Forest Service failed to incorporate information about the economic value of unlogged forests. Conspicuously absent from

the agency's economic analysis for the Slinky Timber Sale project are factors that are more difficult to quantify, but that are just as applicable to the decision whether or not to log on public land. These include the economic benefits associated with:

- 1) Recreational opportunities and tourism;
- 2) Commercial and recreational fisheries within the boundaries of the Mt. Hood National Forests and downstream and offshore;
- 3) Habitat for important game species and hunting both within and outside of the Mt. Hood National Forest;
- 4) Water for cities, industries, businesses, and individual households downstream from the Mt. Hood National Forest;
- 5) The regulation of water flowing through rivers and streams, including flood control;
- 6) Non-timber forest products such as wild mushrooms, herbs, and medicinal plants;
- 7) Mitigation of global climate change through absorption and storage of vast amounts of carbon;
- 8) Enhancing the quality of life of neighboring communities;
- 9) Harboring biological resources that either have value now or have as yet unknown but potentially large economic and social value;
- 10) Harboring biological and genetic resources that can improve the long-term productivity of all forest land;
- 11) Pest-control services provided by species that prey on agriculture and forest pests, and;
- 12) Pollination services provided by species that pollinate important forest and agricultural crops.

These are important economic benefits generated by national forests in every part of the nation, including the Mt. Hood National Forest. The Forest Service has extensive literature and sources of data that it can rely upon to quantify the magnitude of these economic benefits at the national, forest, and project level. The Forest Service seems able to place a value on standing timber when the federal government pursues private parties that have damaged or illegally removed forest products, generally assessing "replacement costs" to the offending party. It is curious that the agency seems able to do this only when it believes that it has been unlawfully deceived, but not when it offers subsidized public timber for sale.

Despite Forest Service claims to the contrary, it is feasible to accurately predict the economic value of recreation, scenic resources, and other resources derived from a forest without logging it. (*ECONorthwest, Seeing the Forests for their Green (2000)*). Another study prepared by John Talberth and Karyn Moskowitz (*John Talberth & Karyn Moskowitz, The Economic Case Against National Forest Logging, Executive Summary (1999)*) explains that from a social and economic prospective, our national forests are far more valuable standing, growing, dying, and regenerating as standing forests rather than as converted paper and wood products. While lumber and wood products are readily available from the 80% of forested land in the United States outside of national forests, clean water, recreation, wildlife, and other public uses and values of great economic benefit generally are not. The small share of the forested land base included in the national forest system must bear nearly 100% of the burden of providing these uses and values. While the EA stated that Forest Service had read this report, it disregarded it as "not within the scope of this analysis," EA 75, without justification.

Moreover, the Forest Service failed to incorporate externalized costs into planning the Slinky Timber Sale. In making the site-specific decision to implement the Slinky Timber Sale, the Forest Service failed to incorporate information about externalized costs passed on to communities, businesses, and individuals when national forests are logged. These include the direct, indirect, and cumulative economic costs associated with:

- 1) Lost recreational opportunities and decreased tourism;
- 2) Degraded commercial and recreational fisheries within the boundaries of the Mt. Hood National Forests and downstream;
- 3) Degraded habitat for important game species and loss of hunting opportunities both within and outside of the Mt. Hood National Forest;
- 4) Increased pollution of water for cities, industries, businesses, and individual households downstream from the Mt. Hood National Forest and increased costs of water filtration;
- 5) Increased flooding and disruption of the normal flows in rivers and streams.
- 6) Loss of non-timber forest products such as wild mushrooms, herbs, and medicinal plants;
- 7) Exacerbation of global warming through release of greenhouse gasses;
- 8) Diminished quality of life of neighboring communities;
- 9) Loss of biological resources that either have value now or have as yet unknown but potentially large economic and social value;
- 10) Loss of biological and genetic resources and species that can improve the long-term productivity and aesthetic qualities of all forest land;
- 11) Diminished pest-control services provided by species that prey on agriculture and forest pests;
- 12) Diminished pollination services provided by species that pollinate important forest and agricultural crops.
- 13) Lost jobs and income associated with timber production on private lands that is displaced by Mt. Hood National Forest timber sales;
- 14) Lost jobs and income associated with the production of alternative and recycled products that is displaced by subsidized Mt. Hood National Forest timber sales;
- 15) Death, injury, and property damage associated with logging on the Mt. Hood National Forest, and;
- 16) Increased risk of severe wildfires caused by adverse changes in microclimate, increased human access, and slash generated by timber sales.

These externalized costs are generated by national forest logging in every part of the nation, including the Mt. Hood National Forest. The Forest Service has extensive literature and sources of data that it can rely upon to quantify the magnitude of these externalized costs at the national, forest, and project level. However, this information was not utilized in the economic analysis for the Slinky Timber Sale. Failure to incorporate externalized costs into the Slinky Timber decision violates numerous statutes, regulations, and rules governing Forest Service management activities described here.

Even without the ECONorthwest and Talberth & Moskowitz studies and reports to guide the economic analysis of the Forest Service, existing statutes, regulations, and government guidance indicate that the economic analysis in the Slinky Timber Sale project is inadequate. First, the National Environmental Policy Act (NEPA) requires the agency to develop some method of assessing the value of standing timber as opposed to timber processed as lumber and other more traditional



consumer products. NEPA states that “all agencies of the Federal Government shall . . . identify and develop methods and procedures . . . which will ensure that presently unquantified environmental amenities and values may be given appropriate consideration in decision-making along with economic and technical considerations.” 42 U.S.C. § 4332(B). The regulation implementing this statutory section states that while a cost benefit analysis is not *required* for a project, if it is “relevant to the choice among environmentally different alternatives is being considered for the proposed action, it *shall be* incorporated by reference or appended to the statement as an aid in evaluating the environmental consequences.” 40 C.F.R. § 1502.23 (emphasis added).

In the EA for the Slinky Sale, the Forest Service has failed to meet NEPA’s requirements to fully disclose the direct, indirect, and cumulative economic impacts of the timber sale program and to give appropriate consideration to environmental amenities in decision-making by the failure to incorporate important natural resource benefits and externalized costs into the Slinky Timber Sale. By failing to utilize appropriate professional expertise found in the ECONorthwest and Talberth & Moskowitz studies that are capable of disclosing all natural resource benefits and externalized costs, the Forest Service is in violation of NEPA’s mandate to rely upon a systematic and interdisciplinary approach to decision making. *Id.* § 4332(A). By ignoring important natural resource benefits and externalized costs, the Forest Service also runs afoul of regulations implementing NEPA that require full disclosure of direct, indirect, and cumulative economic impacts, identification of environmental effects and values in adequate detail so that they can be compared with economic and technical analyses, rigorous analysis of the benefits of implementing the “no action” alternative in timber sales, and use of appropriate professional expertise. 40 C.F.R. §§ 1501.2(a); 1501.2(b); 1502.6; 1502.16; 1502.24; 1507.2(a); 1507.2(b); 1508.7; 1508.8; 1508.27.

Second, the National Forest Management Act (NFMA) imposes additional requirements on the Forest Service in terms of conducting an economic analysis for timber sales. The regulations implementing this statute state that Land and Resource Management Plans (LRMPs) “shall provide for multiple use and sustained yield of goods and services from the National Forest System in a way that maximizes long term net public benefits in an environmentally sound manner.” 36 C.F.R. § 219.1(a). In turn, the regulations define “net public benefit” as

an expression used to signify the overall long-term value to the nation of all outputs and positive (benefits) less all associated inputs and negative effects (costs) *whether they can be quantitatively valued or not. Net public benefits are measured by both qualitative and quantitative criteria rather than a single measure or index.*

*Id.* § 219.3 (emphasis added). Although these regulations refer to LRMPs specifically, because site-specific project must comply with larger land management plans, the requirement that LRMPs must incorporate values such as recreation and watershed health into a cost-benefit analysis is equally applicable to site-specific project. *Id.* § 219.10(e); 16 U.S.C. § 1604(i).

NFMA regulations go on to explain that land management plans must be implemented through site-specific projects that are sensitive to changing economic realities. They state that national forest lands must be managed “in a manner that is sensitive to economic efficiency,” and that managers must be responsive “to changing conditions in land and other resources and to changing social and economic demands of the American people.” 36 C.F.R. §§ 219.1(b)(13), (b)(14). As the ECONorthwest and Talberth & Moskowitz studies indicate, there are in fact ways to calculate the

economic value of standing forests, which denotes a change in the way that the American public demands that their public lands are managed. The Forest Service has failed to address these studies or the methodologies cited in them.

The Forest and Rangeland Renewable Resource Planning Act (RPA), as amended by the National Forest Management Act, imposes similar requirements on the Forest Service. 16 U.S.C. §§ 1600–1614 (2000). The RPA requires the agency to: incorporate natural resource benefits and externalized costs into decisions affecting the national forests; secure the maximum benefits of multiple use sustained yield management; conduct comprehensive economic assessments of all National Forest resources; identify all costs and all benefits associated with RPA Program outputs; ensure consideration of the economic aspects of renewable resource management; improve Forest Service accountability when it prepares annual budgets and reports to Congress on the costs and benefits of its programs; and conserve forests and promote the use of recycled products. 16 U.S.C. §§ 1600(7); 1601(d)(1); 1600(3); 1602(2); 1604(g)3; 1606(a); 1606(b); 1606(c); 1606(d). Regulations implementing both NFMA and the RPA require the Forest Service to maximize net public benefits, evaluate the relative values of all National Forest resources, consider all market and non-market costs and all benefits of management decisions, and assign monetary values to goods and services to the extent that they can be assigned. 36 C.F.R. §§ 219.1; 219.4(a)(1); 219.4(b)(1)(ii); 219.12; 219.13; 219.14. In this case, the Forest Service doesn't mention these statutes and regulations, and the Slinky Timber Sale does not comply with them.

Third, the Forest Service has violated the Multiple Use, Sustained Yield Act (MUSYA) by failing to incorporate important natural resource benefits and externalized costs into the Slinky Timber Sale timber sale decision. 16 U.S.C. § 528–531 (2000). Without incorporating natural resource benefits and externalized costs into these decisions, the Forest Service cannot meet MUSYA's requirements to administer National Forests for all of their resources, to maximize public benefits, and to give due consideration to the relative resource values of all National Forest resources. 16 U.S.C. §§ 528, 529, 531.

Fourth, the Slinky Timber Sale timber sale has violated the Global Climate Change Prevention Act. 7 U.S.C. § 6701 (2000). Logging national forests exacerbates adverse changes in global climate by reducing the carbon absorption function of national forests and by releasing carbon stored by these forests into the atmosphere. The adverse ecological and economic effects of increases in atmospheric carbon caused by national forest timber sales has not been disclosed nor incorporated into the Slinky EA by the Forest Service. Failure to do so is a violation of the Global Climate Change Prevention Act.

Finally, other federal guidance explains the types of factors that should be considered in any cost-benefit analysis undertaken for a federal project. The Office of Management and Budget has stated that cost-benefit analyses

should include comprehensive estimates of the expected benefits and costs to *society* based on established definitions and practices for program and policy evaluation. Social net benefits, and not the benefits and costs to the Federal Government, should be the basis for evaluating government programs or policies that have effects on private citizens or other levels of government. Social benefits and costs can differ from private benefits and costs as measured in the marketplace because of imperfections arising from: (i) *external economies or*

*diseconomies* where actions by one party impose benefits or costs on other groups that are not compensated in the market place; (ii) monopoly power that distorts the relationship between marginal costs and market prices; and (iii) taxes or subsidies.

OFFICE OF MANAGEMENT AND BUDGET, CIRCULAR A-94 § 6 (1992) (emphasis in original). As applied to the management of the timber sale program, this guidance clearly indicates the need not only for analysis of the socioeconomic benefits of unlogged forests in areas where logging is contemplated, but also an analysis of the rate of return that could be achieved if timber sale monies were spent on other projects such as recreation, wildlife, or watershed restoration.

While not binding to the same extent as statutes and regulations, the Forest Service Handbook and Forest Service Manual also provide guidance regarding conducting an adequate economics analysis for timber sales. The agency's Economic and Social Analysis Handbook requires the Forest Service to maximize net public benefits and fully account for all market and non-market benefits and costs in the context of market studies, economic efficiency analysis, and economic impact assessments of its plans and programs. FSH 1909.17.11.1; 1909.17.14.1; 1909.17.14.11; 1909.17.14.6; 1909.17.23. The Forest Service's Timber Sale Preparation Handbook requires the agency to address all marketed and non-marketed costs and benefits in analyses of the financial and economic efficiency of individual timber sales and the timber sale program as a whole. FSH 2409.18.13.1; 2409.18.32. Similarly, the Forest Service Manual requires the Forest Service to: manage the timber sale program so that total benefits exceed total costs; account for non-timber economic effects in its timber sale analyses; ensure that economic values used in economic efficiency and economic impact assessments adequately reflect biological, economic, and social conditions; and base its decisions on the economic and social impacts and costs and benefits. FSM 2403.4; 2403.5; 1971.5; 1970.1(1), (2), (3); 1970.2; 1970.3(1), (5). The Slinky EA and associated documents neither mention nor comply with these recommendations.

In sum, these studies, statutes, regulations, and other guidance indicate that the economics analysis conducted for the Slinky Timber Sale is inadequate, and that the preferred alternative will not capture the highest present net value of the timber resource. Instead, the analysis in the EA fails to consider the economic value of standing forests. Once the Forest Service conducts the economics analysis required by law, the agency will conclude that the value of the planning area in its natural state far outweighs logging it. Any decision to implement the proposed project despite this information will be arbitrary and capricious and will violate the Administrative Procedure Act. 5 U.S.C. § 706(2)(A).

### **C. The Slinky Timber Sale Will Not Achieve Desired Future Conditions.**

The Slinky timber sale EA fails to mention desired future conditions and priorities in the Northwest Forest Plan (NWFP) and MHLRMP that call for preserving plant and animal diversity as opposed to creating plantation forests. The EA carefully selects only those Desired Future Conditions from the MHLRMP that supports managing the land for plantations. This omission lends to a bias toward timber emphasis at the expense of biodiversity that is evident throughout the document.

The EA refers to the area as classified as C1 timber emphasis, justifying the primary goal of the Slinky project being to produce wood products. EA, 3. However, the project area is also designated as Matrix by the NWFP, which while being the primary area where commodity production *can* (not should or shall) take place, also carries additional obligations regarding habitat protection that supercedes C1 classification. An important goal of Matrix not found in C1 classification is to

“perform an important role in maintaining biodiversity.” To what extent is the Slinky Proposed Action maintaining biological biodiversity?

The EA omits most objectives that relate to and support maintaining and enhancing biodiversity, such as exist in old growth forests, saying that only the “desired future conditions from the Forest Plan that are relevant to this proposal are summarized below.” EA, 4. The USFS cannot pick and choose omitting those that don’t fit the project. It should be the other way around, where a project is adjusted to meet critical desired future conditions.

The EA omits the following Desired Future Conditions:

“There is local improvement in riparian area and aquatic habitat (fish habitat and water quality) conditions,” MHLRMP, Four-6.

“Management Activities *shall* (emphasis added) preserve and enhance the diversity of plant and animal communities, including endemic and desirable naturalized plant and animal species.” MHLRMP, Forest Diversity A, Four-67.

“Habitat is managed for the northern spotted owl, pileated woodpecker, pine marten and other wildlife species represented by the named management indicator species.” MHLRMP, Four -6.

It is important to have a comprehensive view of the desired future conditions in order to see how this project fits into the overall priorities. The same process of omission happens with regard to the Upper Clackamas Watershed Analyses (UCWA) and the Oak Grove Watershed Analysis (OGWA), where the EA admits that “only the conditions relevant to this proposal are summarized.” EA, 4.

The EA’s bias toward wood production at the expense of viable old growth habitats is shown in its description of the Existing Situation, which attempts to justify logging old growth. The EA states that the Proposed Action B is needed because the forest stands are “growing slowly, are diseased and are greater than 200 years old...If no action were taken, these stands would continue to decline in terms of wood fiber productivity.” EA, 28. Leaving the issue of sustainable forest products aside, slow growth and tree mortality (which goes hand in hand with old growth) are natural in trees that are two hundred years old, and both traits are main characteristics of old growth forests. The implication in the description is this diseased, dead and dying forest is a condition that needs to be remedied. The USFS itself includes these traits in its definition of old growth forests, saying that main characteristics are “large dead trees (snags) and large fallen trees.” Pacific Northwest Research Station Science Update, May 2002.

Although disease is a natural part of the process of mortality and critical to the healthy functioning of an old growth eco-system, the EA old described old growth not as beneficial but as a source of infection to nearby plantations “The removal or reduction of sources of pathogens from the Slinky units would benefit adjacent plantations and would be less spread of disease form one stand to another.” EA, 29. It’s disturbing at this stage in our collective scientific understanding of the role of old growth forests to find such a bias against these older forests in your analysis.

## **II. The Slinky EA Does Not Adequately Consider The Impacts Of This Project**

The Slinky EA does not provide enough information to determine the extent of indirect, direct, or cumulative environmental impacts associated with the Slinky project. Moreover, the EA does not furnish substantive and quantitative evidence showing this project will not cause serious and irreversible damage to soils, forest productivity, plant diversity, water quality, and wildlife habitat. In fact, the evidence strongly suggests that the project will cause significant impacts to these resources that preclude the implementation of the proposed project.

**A. The Slinky Timber Sale EA Fails To Adequately Consider The Cumulative Environmental Impacts Of The Proposed Project, And Past, Present, And Future Forest Service And Private Activities.**

The Slinky EA fails to identify and evaluate the cumulative impacts of the project. Under NEPA, “significance exists if it is reasonable to anticipate cumulatively significant impacts on the environment. Significance cannot be avoided by terming an action temporary or by breaking it down into small component parts.” 40 C.F.R. § 1508.27(b)(7). Furthermore, NEPA requires the agency to evaluate “cumulative actions, which when viewed with other proposed actions have cumulatively significant impacts and should therefore be discussed in the same impact statement.” *Id.* § 1508.24(a)(2).

We appreciate that the Forest Service mentions that other projects are occurring in the Oak Grove and Upper Clackamas Watersheds on the Mt. Hood National Forest. Indeed, the agency prepared a list of regeneration harvest projects and acres in the relevant watersheds since the Northwest Plan. EA, 25. However, the Slinky EA does not actually analyze the cumulative impacts of this project and other past, current, and foreseeable future projects, including timber sales, livestock grazing, herbicide use, mining projects, off-road vehicle use, and other management activities. The EA admits to having completed/planned the clearcutting of 1664 acres of old growth in both watersheds over the last 8 years. EA, 25. There are short sections dealing with cumulative effects scattered throughout the EA, but they mainly describe impacts, as opposed to assess cumulative impacts. There is no indication that the agency has *assessed* the nature of the cumulative impacts to species, soil, and aquatic resources within the planning area.

Several projects in the same watershed have *cumulative impacts*, which are defined as “the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions.” 40 C.F.R. § 1508.7. The Forest Service has not adequately assessed the cumulative impacts of the Slinky timber sale. Because there is no indication that the agency has assessed the nature of the cumulative impacts to species, soil, and aquatic resources within the planning area, the analysis is woefully incomplete. We recommend that the Forest Service to prepare an EIS that assesses the cumulative impacts of this sale in conjunction with other projects in the same watershed.

The brief attention given to the cumulative impacts of the Slinky Timber Sale is inadequate and fails to meet NEPA’s requirement for high quality scientific analysis that would satisfy the “hard look” standard. *Robertson v. Methow Valley Citizens Council*, 490 U.S. 332, 353 (1989); *Blue Mountains Biodiversity Project v. Blackwood*, 161 F.3d 1208 (9th Cir. 1998) *cert. denied*, *Ochoco Lumber Co. v. Blue Mountains Biodiversity Project*, 119 S.Ct. 2337 (1999). The courts have also held that the failure to conduct a cumulative impacts analysis is fatal to a project. *Neighbors of Cuddy Mountain v. United States Forest Serv.*, 137 F.3d 1372 (9<sup>th</sup> Cir. 1998); *Idaho Sporting Congress v. Thomas*,

137 F.3d 1146 (9<sup>th</sup> Cir. 1998); *Muckleshoot Indian Tribe v. U.S. Forest Serv.*, 177 F.3d 800 (9<sup>th</sup> Cir. 1999).

There is no real analysis in the Slinky EA regarding how logging, and roading activities affect the planning area. NEPA requires this analysis, and the failure to provide it violates the law. 40 C.F.R. § 1508.7. The lack of an adequate cumulative impact analysis to assess loss of old growth fragments and late/old structure (LOS), degradation of water quality, impacts to plant and animal species, and soil health is especially problematic given the cursory admissions throughout the EA that the analysis area has been highly impacted by past logging and other management activities. Again, simply stating that other activities are occurring or will occur does not suffice as an adequate cumulative impacts analysis.

#### 1. Cumulative Direct and Indirect Impacts on Watershed Integrity

The EA does nothing to indicate how logging the Slinky planning area – in addition to logging other timber projects in the area – will meet water quality standards. There will certainly be significant cumulative impacts to aquatic systems from the proposed project in conjunction with other projects and activities (ATV, grazing, etc.) in the vicinity. The EA admits that the proposed actions are going to degrade water quality and have an adverse effect to fish: “Potential effects to listed, proposed, candidate, or sensitive fish species and their habitat from the proposed project include direct, indirect and cumulative effects. An example of direct effects may include increased levels of fine sediment in local streams generated during road building, logging, and hauling. An example of indirect effects may include increased amounts of fine sediment downstream in rivers or at the intake of municipal water providers, due to erosion from harvest units and roads.” EA, 17. The EA also acknowledges that “The baseline for sediment is not properly functioning for Kink Creek.” EA, 16. Despite acknowledging that there will be real direct and indirect effects from this project, there is not sufficient analysis that takes into consideration the fact that there have been past timber projects in the planning area, and that there are currently projects ongoing in the planning area, and that projects are likely to take place in the planning area in the future. These projects in addition to other non timber sale impacts are related temporally and spatially, and should be addressed in a comprehensive EIS.

The Aggregate Recovery Model (ARP) used to determine cumulative effects on hydrology does not provide complete information. The EA states in regard to potential thinning projects that “actual acres and timing are somewhat speculative at this point” EA, 22. This speculation does not allow for solid information about cumulative impacts in the ARP analysis, as the amount could be significantly greater than the estimates used to determine the ARP for Slinky. Regarding the restoration projects outlined on page 23 (not included in the ARP analysis), the EA ignores the potential for temporary adverse effects of these projects. While we applaud the agency for its restoration endeavors, the EA cannot ignore their short term impacts, as it relates to sedimentation that are certain with projects such as culvert replacement, road decommissioning, road repair, skid trail subsoiling and waterbarring, EA, 23. The EA does not adequately analyze these combined projects and their impacts on water quality, and NEPA simply does not allow the agency to forgo a cumulative impacts analysis of these events. 40 C.F.R. §§ 1502.16 (environmental consequences), 1508.7 (cumulative impact).

The EA does not provide a scientific current benchmark describing the condition of aquatic systems (measured in terms of temperature, turbidity, pH, and fecal coliform), and without it, such impacts

cannot be determined. What information that was provided in the Biological Assessment is from 1988, and therefore is not relevant given that is five years old. Therefore; the EA inadequately addressed the direct and indirect impacts from the proposed sale on the environment. The water quality issue should be studied in a comprehensive EIS.

## 2. Cumulative, Direct And Indirect Impacts On Forest Fragmentation, And Dispersal Of Late Successional Species

EA omits the known benefits of old growth forest fragments, and thereby omits adequate analysis of environmental impact of eliminating these valuable forest fragments on late Successional species. Old growth forests play a vital role in our region's biodiversity—including but not limited to carbon sequestration, clean drinking water, healthy fish runs and recreation. The NWFP acknowledges old forests' value as a legacy of biodiversity, and calls for their protection; particularly isolated patches of old growth in the Matrix like those in the proposed Slinky Timber Sale. This is briefly referenced in the EA. EA, 32. The NWFP states:

The distribution of old growth stands through the landscape is an important component of ecosystem diversity, and plays a significant role in providing for biological and structural diversity across the landscape. Isolated remnant old growth patches are ecologically significant in functioning as refugia for a host of old-growth associated species, particularly those with limited dispersal capabilities that are not able to migrate across large landscapes of younger stands... Isolated patches will function as refugia where old-growth associated species are able to persist until conditions become suitable for their dispersal into adjacent stands... It is prudent to retain what little remains of this age class within landscape areas where it is currently very limited. This will ensure future options for management and enhancement of the diversity within adjacent developing stands. Landscape areas where little late-successional forest persists should be managed to retain late successional patches. (Record of Decision for Amendments to Forest Service and Bureau of Land Management Planning Documents Within the Range of the Northern Spotted Owl, Standards and Guidelines C-44).

The EA neglects to offer a description of the benefits of keeping these fragments standing in the No Action Alternative. EA, 31. There is no description of the important role they would play as legacies for biodiversity in adjacent forests, as described in the NWFP. The available scientific evidence about the ecological importance of old growth islands makes the case even stronger and more urgent. I have attached a copy of letter drafted by Dave Perry and other scientists to the Regional Interagency Executive Committee, backing the protection of all late-seral and old growth forests. Along with their letter is a bibliography of citations supporting their position. While the USFS states that this information was considered, there is no indication in the EA that it has been considered. Not only does the scientific community support the protection of old growth, recent polls have shown that 75% of the public back an end to old-growth logging.

In place of an authentic study of adverse impacts, the USFS fills the EA with reasons for logging Slinky that are faulty and misleading. One rationale that the USFS offers for logging these valuable remnants of old growth is that if these stands are not logged, they will be forced to log non-isolated, contiguous stands of old growth instead. "The strategy of regenerating the smaller isolated stands avoids harvesting the larger and more contiguous stands of interior late-seral habitat." EA, 31. Where

is it a requirement that the USFS must log old growth? The USFS could easily focus its management on existing even age plantations instead, and keep busy for years to come. This assumption is also unsound given that the Oak Grove Watershed is in a highly fragmented condition already, and one would be hard pressed to find many interior patches of old growth left that would be saved by harvesting Slinky's old growth fragments. "The Oak Grove is a very fragmented watershed within a highly fragmented subbasin... Most of the watershed is classified as "fragmented". There are very few areas classified as unfragmented" in the Oak Grove." OGWA, 49. The same is true of the Upper Clackamas Watershed, which is described as "a highly fragmented watershed within a highly fragmented subbasin." UCWA, 10. Moreover, the EA clearly states that logging proposed in Slinky is last in its list of priority areas to harvest, as "regeneration harvest of mid or late-seral stands which do not directly affect important stands with interior habitat" is number five of five options listed in priority order. EA, 6. There is no demonstrated economic need that the late seral forests of Slinky, as opposed to plantations, *need* to be logged.

Another false benefit of logging the old growth is that clear-cutting these areas "would move the landscape toward increased average patch size... Fifty years from now, the plantations would resemble and function as one large stand." EA, 31. What is the inherent value of an increased average patch size of a sterile plantation, as opposed to a patch that includes a biologically rich stand? Why is it better that it "function" as one large stand as opposed to one that includes a refugia of biodiversity? And who cares what it looks like? Aesthetic concerns pale in comparison to the need for maintaining and enhancing habitat for species. At any rate, many would argue that it's more visually pleasing and inspiring looking at old growth forests rather than an even age plantation. Do you have any evidence to the contrary? You could also wait fifty years and allow the surrounding plantations to grow up around the existing patches of old growth, which will then supply a needed source of biological diversity for the plantations and help meet desired future conditions for increased late Successional forest.

Another false justification used to clearcut this rare old growth habitat is that once the old trees fall, there will be a dearth of younger trees to replace them due to a density of rhododendron undergrowth that is preventing new trees from taking hold. EA, 29. First, this ignores current understanding of how old forests function. When large trees fall, openings occur that change the dynamic of the micro-eco-system. Western Hemlock, which can establish itself in the shade, often take root out of dead and dying trees on the forest floor, called nurse logs. That is why the presence of western hemlocks are considered a sign of a climax forest. Nature will certainly take care of itself, but if for some reason nature fails us this time, one could conduct localized brush removal and plant some understory trees. Second, the EA inaccurately describes the entire area as an overgrown rhododendron thicket. In many of the units that Bark has visited, there is not an over-abundance of rhododendron, for example in units 31, 51, 8, 17 or 9. In all of these units, a lot of young hemlock is successfully growing up. There is a very healthy understory including vanilla leaf and Oregon grape. There is certainly an abundance of rhododendron in Units 1 and 2, however, given the ecological process described above, it should not prevent any future forests from growing on the site. Additionally, a natural fire regime could also address any concerns about future growth.

The EA shows a lack of understanding about the function and role of endemic disease in old growth ecosystems, and has designed the proposed action prescriptions around these false assumptions. The EA claims that the proposed action alternatives "could reduce dwarf mistletoe in infected stands and decrease number of diseased trees," EA, 29, but no scientific evidence is provided to support that. In



fact, in the case of mistletoe, logging will more likely exacerbate the problem. Moreover, the positive benefits of mistletoe, such as being attractive nesting sites for spotted owl, have not been considered in this analysis.

Douglas fir dwarf mistletoe has a propensity to thrive after logging. One need only walk the previously logged areas around Mill Creek timber sale in the Hood River District or the Juncrock sale in the Barlow District to see how logging has not stopped but exacerbated the mistletoe infection. In those sale areas, the portions that have never been logged have a much decreased presence of mistletoe. Logging is known to disturb the mistletoe, which when jostled is propelled to nearby trees, and thrives on the adjoining re-growth, which is why sources we have consulted state that pruning is the only effective way to combat mistletoe. In areas where mistletoe is determined to be excessive, we suggest pruning as a method that will not only be more effective, but will also employ people locally and provide economic support for local communities. We are also concerned about regeneration harvests being conducted in areas shown to have laminated root rot. Since laminated root rot can live for up to 50 years in stumps, it is unclear how regeneration of these stands will stop it. We ask that you consider these areas for wildlife habitat, not timber harvest.

The EA neglects to adequately discuss the effects of forest fragmentation on dispersal of late Successional species. There is lack of Late Successional Forest in the Oak Grove and Upper Clackamas Watersheds upon which late Successional species rely. The NWFP states that watersheds that have 15% or less of late Successional forests should be managed so as to retain all of the late Successional forests. The percentage is a bare minimum that is required to be retained. It is not a percentage to strive toward. The EA implies that anything over 15% is adequate, when science indicates that this is not the case. Nowhere does it state that if a watershed exceeds this amount that it must be logged. At present, given the diminished supply of late successional forest in our region, as blatantly highlighted by the steady decline of the population of the northern spotted owl, the USFS should be doing everything possible to retain all remaining late Successional forest, raising the 42% percent in the Oak Grove Watershed and the 36.9% in the Upper Clackamas closer to historic levels. The most critical function this land could play is as late Successional habitat, not an ecologically sterile plantation. Although it seems reasonable to conclude that further division of the already highly fragmented areas would be a significant impact in and of itself, no USFS document addressed how the Slinky Timber Sale – combined with adjacent timber projects – would affect species dependent on late-successional and old growth forest.

The EA acknowledges that “The proposed action may reduce the habitat for animal and plant species within the project area by harvesting older forest stands.” EA, 30. However, the EA does not adequately consider how increasing the existing level of fragmentation could affect these species’ population levels, reproduction, or long-term viability in the watershed and adjacent lands, nor discussed how diminishing old growth habitat would affect wide ranging species such as wolverine and lynx.

In scoping and commenting, the public raised the issue of diminishing habitat through logging old growth fragments. The EA not only fails to justify logging old growth, it fails to adequately respond to public concerns related to this topic. An earlier Environmental Assessment (EA), with similar proposed acreage (190 as opposed to 184) of old growth logging was published in July 1999. Since the 1999 EA, a plethora of comments have been sent to the Forest Service expressing concern about logging old growth. The recently released EA responds to the numerous letters received on this issue

by saying that the USFS will measure the effects on a landscape level and that it is allowable per the NWFP. Measuring effects of destruction does not address public concerns about the loss of forest genetic material and late Successional habitat, and the NWFP and the National Forest Management Act require that logging cannot be done at the risk of sustainability of species and habitat. The Slinky project is not meeting those requirements.

The EA does not address the affect of the Slinky sale on forest habitat availability and functionality. The EA fails to indicate the level of fragmentation in the planning area, or the fragmentation of riparian reserves, although the area has been intensively logged in the past. The National Marine Fisheries document titled “Making Endangered Species Act Determinations of Effect for Individual or Grouped Actions at the Watershed Scale” states that a watershed which has riparian reserves that are less than 70% intact is considered to be “not properly functioning,” Page 11. The description of a watershed that is not properly functioning includes: “riparian reserve system is fragmented, poorly connected, or provides inadequate protection of habitats and refugia for sensitive aquatic species (<70% intact)” Page, 11. (See attachment #2.) The EA also fails to discuss how the proposed project will not contribute to further habitat degradation and fragmentation. NEPA requires the agency to discuss the direct effects of the proposed project, which includes the immediate effect on wildlife due logging late Successional interior habitat forest. 40 C.F.R. § 1502.16(a).

Although it seems reasonable to conclude that logging some of the watershed’s last remaining old growth fragments would be a significant impact in and of itself, no USFS document addressed how the Slinky Timber Sale – combined with adjacent timber projects – would affect species dependent on late-successional and old growth forest. The EA neither adequately considered how diminishing habitat for these species would affect these species’ population levels, reproduction, nor long-term viability in the watershed and adjacent lands.

In conclusion, the EA inadequately evaluated the impact of the proposed timber project on old growth forest fragments and the dispersal of late-successional and wide-ranging species. Because the EA discloses very little information on these issues, any decision to implement the proposed project will not be supported by reliable data. The EA states that “At the Forest scale, there is abundant habitat for species with limited dispersal capabilities” and that “More than 80% of the 1 million acres on the Mt. Hood National Forest are in land allocations other than matrix,” EA, 32. These statements are misleading, as they imply that all portions of Mt. Hood National Forest that are not in the Matrix are appropriate for the species in question. However, sizeable sections of the non-Matrix area consist of rock and ice, are inappropriate elevations or environment for these species, or are degraded due to past management. There is no specific data in the EA that supports the claim that there is ample habitat elsewhere. Due to the lack of data regarding the impact of the proposed action, further study should be done in the form of an EIS that addresses these issues.

### 3. The EA Does Not Have Adequate Survey Data To Support Its Findings

The Mt. Hood National Forest has failed to adequately survey for sensitive and listed species and therefore lacks the necessary information to support the proposed action alternatives in the Slinky Timber Sale. We do not believe that the Forest has to survey for every species that may be present in a project area in order to propose a project. However, before making a final decision, surveys for sensitive, listed, proposed for listing/rare, and management indicator species that have been reported or are likely to utilize the project area should be conducted if reliable population estimates are not

available. *See generally*, OFFICE OF THE INSPECTOR GENERAL, FOREST SERVICE TIMBER SALE ENVIRONMENTAL ANALYSIS REQUIREMENTS (1999) 20. Such monitoring is required under NFMA, and NEPA requires the agency to use only high quality science and to obtain data when it is missing yet necessary to make an informed decision. 36 C.F.R. § 219.27(a)(6); 40 C.F.R. §§ 1503.24 (scientific accuracy), 1502.22 (incomplete or unavailable information). The failure to complete such monitoring means that the data is not collected, and the approximate population levels or trends of species on the Forest are unknown. Without such data, the MNF lacks the informed ability to issue a DN/FONSI, in violation of NEPA. 40 C.F.R. § 1500.1; *Sierra Club v. Martin*, 168 F.3d 1 (11<sup>th</sup> Cir. 1999).

## **B. The Forest Service Improperly Relies On Mitigation Measures To Conclude That There Will Be No Significant Impacts Of The Slinky Sale.**

The EA downplays any potential adverse impacts from harvesting activities: “Even if some soil movement occurred, the vegetated buffer strips along every stream would act as an effective barrier... The chance that measurable amounts of fine sediment would enter any stream within the project area as a direct result of logging activity is negligible. EA, 18. The foundation of this overly optimistic assessment of impacts is Best Management Practices (BMPs), which are automatically assumed to negate negative impacts. While we support the use of BMPs, they should not automatically facilitate approval of projects that degrade habitat. The aim of BMPs is that they can “control or prevent,” adverse impacts. However, the only sure method of preventing adverse impacts is by not conducting activities that cause harm and destruction. BEST measures of control do not provide assurance that valuable habitat will not be degraded. Despite the lengthy praise given to BMPs in the EA (much more space was allocated to lauding the BMPs than was devoted to a cumulative impacts assessment for the northern spotted owl), there is no proof of “demonstrated ability” of BMPs to be successful in diminishing harm. The fact that they have been in practice for many years and have improved over time does not mean that they are effective at countering adverse impacts. Fish hatcheries have improved over time, but may still prove to contribute to the ultimate downfall of native fish runs across the region. The EA states that monitoring will take place in the aftermath of the habitat degradation on a forest wide level. While monitoring activity should take place on a forest wide level, this should not replace ongoing monitoring on a site specific scale both during and after the timber sale. It’s much more realistic to detect a cause and effect pattern on a localized level as opposed to a broader, forest wide scale.

### 1. The EA Does Not Contain An Adequate Discussion Of Mitigation Measures.

The proposed project will have significant impacts on the quality of the human environment, thereby necessitating the preparation of an environmental impact statement. However, in cases where an environmental assessment may be the appropriate environmental document, the Forest Service should consider and adopt mitigation measures or alternatives even though the impacts of the proposal may not be “significant.” 40 C.F.R. §§ 1501.3(b), 1508.9(a)(2). In such cases, the EA should include a discussion of these measures or alternatives to “assist agency planning and decision making” and to “aid an agency’s compliance with (NEPA) when no environmental impact statement is necessary.” Forty Most Asked Questions Concerning CEQ’s National Environmental Policy Act Regulations (40 Questions), 46 Fed. Reg. 18,037. The Supreme Court has upheld the agency’s duty to consider mitigation measures in preparing environmental documents. *See Robertson v. Methow Valley Citizen’s Council*, 490 U.S. 332, 353 (1989). More generally, omission of a reasonably complete

discussion of possible mitigation measures would undermine the “action forcing” function of NEPA. Without such a discussion, neither the agency nor other interested groups and individuals can properly evaluate the severity of the adverse effects.

The Ninth Circuit has held that “mitigation must be discussed in sufficient detail to ensure that environmental consequences have been fairly evaluated.” *Carmel-By-the-Sea v. United States Dep’t of Transp.*, 123 F.3d 1142, 1154 (9th Cir. 1997). The court has also noted that “a mere listing of mitigation measures is insufficient to qualify as the reasoned discussion required by NEPA.” *Northwest Indian Cemetery Protective Ass’n v. Peterson*, 795 F.2d 688, 697 (9th Cir. 1986), *rev’d on other grounds*, 485 U.S. 439 (1988); *see also Neighbors of Cuddy Mountain v. United States Forest Serv.*, 137 F.3d 1372 (9th Cir. 1998). More recently, the Ninth Circuit held that the Forest Service may not rely on mere conjecture or agency claims without presenting the background and supporting data for those conclusions. *Idaho Sporting Congress v. Thomas*, 137 F.3d 1146 (9th Cir. 1998).

While the mitigation measures discussed in the EA are more substantial than we have observed in previous EAs on the Forest, we caution the Forest Service that it must fully implement the measures, and that funding must be made available to fully implement the proposed measures.

## 2. Mitigation Measures Do Not Obviate The Need To Prepare An EIS.

Where an environmental assessment relies on mitigation measures to reach a finding of no significant impact, that mitigation must be assured to occur and must “completely compensate for any possible adverse environmental impacts.” *Cabinet Mountains Wilderness/Scotchman's Peak Grizzly Bears v. Peterson*, 685 F.2d 678, 682 (D.C. Cir. 1982). If the effectiveness of such mitigation is not assured, then the Forest Service cannot sign a FONSI and must prepare an EIS. *Foundation for North American Wild Sheep v. U.S. Dep’t of Agric.*, 681 F.2d 1172, 1181 (1982). In *Northwest Indian Cemetery Protective Assn. v. Peterson*, the court determined that NEPA requires agencies to “analyze the mitigation measures in detail [and] explain how effective the measures would be . . . A mere listing of mitigation measures is insufficient to qualify as the reasoned discussion required by NEPA.” 764 F.2d 581 (9th Cir. 1985).

In an explanation of its regulations, the CEQ has stated that mitigation-based FONSI are inappropriate in most situations:

Mitigation measures may be relied upon to make a finding of no significant impact only if they are imposed by statute or regulation, or submitted by an applicant or agency as part of the original proposal. As a general rule, the regulations contemplate that agencies should use a broad approach in defining significance and should not rely on the possibility of mitigation as an excuse to avoid the EIS requirement.

46 Fed. Reg. 18,038. If a proposal appears to have adverse effects that could be significant, and certain mitigation measures are then developed during the scoping or EA stages, the existence of such possible mitigation does not obviate the need for an EIS. Therefore, if scoping or the EA identifies certain mitigation opportunities without altering the nature of the proposal itself, the agency should continue the EIS process and submit the proposal, and the potential mitigation, for public and agency review and comment. This is essential to ensure that the final decision is based on all the relevant

factors and that the full NEPA process will result in enforceable mitigation measures through the Record of Decision. *Id.* at 18,026.

The courts have held that even though the procedural requirements of an EIS are more strict than those required for an EA, an EA requires more substantial proof that the mitigation will in fact result in no significant impact than an EIS. The Ninth Circuit has held that if the plaintiff “raises substantial questions whether a project may have a significant effect, an EIS must be prepared.” *Steamboaters v. FERC*, 777 F.2d 1384 (9<sup>th</sup> Cir. 1985). The court will not accept conclusory statements that mitigation measures are effective: the agency must be able to support its conclusions with information in the administrative record. *Sierra Club v. Peterson*, 717 F.2d 1409 (D.C. Cir. 1985).

The test for whether mitigation is adequate is not whether it will avoid listing of a species, but rather whether it will completely avoid impacts to the species or reduce those impacts to the level of insignificance. *Cabinet Mountains Wilderness/Scotchman’s Peak Grizzly Bears v. Peterson*, 685 F.2d at 682. There is no assurance that planned mitigation measures for the proposed logging will completely compensate for environmental impacts.

A recent USDA Office of the Inspector General Report concluded that reliance on speculative mitigation measures in order to reach a FONSI significantly compromised environmental quality. OFFICE OF INSPECTOR GENERAL, U.S. DEPT’ OF AGRIC., EVALUATION REPORT NO. 08801-10-AT: FOREST SERVICE TIMBER SALE ENVIRONMENTAL ANALYSIS REQUIREMENTS (1999). The OIG concluded that:

Applicable mitigation measures contained in 10 of 12 decision notices and referenced environmental assessments reviewed, were not always implemented. In addition, mitigation measures were either omitted or incorrectly incorporated into 4 of 12 accompanying timber sale contracts. These mitigation measures are designed to reduce the adverse impacts of timber sale activities on the environment. Generally, mitigation measures were not implemented due to district personnel (a) not being familiar with the mitigation measure contained in the environmental documents, (b) not adequately monitoring actual implementation of the mitigation measures, (c) not comparing timber sale contract clauses with the applicable environmental documents and, (d) oversight. As a result, streams, wildlife habitat, heritage resources, water quality, and visual quality were or could be adversely affected. In addition, “Findings of No Significant Impact” conclusions (i.e. that there was no significant affect on the quality of the human environment) were questionable . . . Timber sale field visits disclosed that mitigation measures designed to protect key resource areas were not adequately implemented. The measures involved mitigation of riparian areas and stream management zones, wildlife habitat, heritage resource sites, visual quality, and soils.

Until the USFS is able to substantiate its proposed mitigation measures – i.e., that they are appropriate, will be implemented, and will be effective – the agency must withdraw the proposed project.

### 3. The EA Must Include A Detailed Monitoring And Mitigation Plan.

Monitoring is increasingly important in sound forest management, and is considered a cornerstone of proper management of public lands. Although the Forest Service has discussed some of the mitigation *measures* that it may utilize in the Slinky sale, there is no comprehensive *plan* for how and when these measures will be employed, how much they will cost, what entity (purchaser or USFS) is responsible for their implementation and enforcement, what will happen if the measures either are not fully implemented or fail, and other similar considerations. We note that such a mitigation plan is missing in the EA, even though NEPA requires a site-specific monitoring and mitigation plan. The regulations implementing NEPA require that agencies “state whether all practicable means to avoid or minimize environmental harm from the alternative selected have been adopted, and if not, why they were not. A monitoring and enforcement program shall be adopted and summarized where applicable for any mitigation.” 40 C.F.R. § 1505.2(c). Additionally,

agencies may provide for monitoring to assure that their decisions are carried out and should do so in important cases. Mitigation (§ 1505.2(c)) and other conditions established in the environmental impact statement or during its review and committed as part of the decision shall be implemented by the lead agency or other appropriate consenting agency. The lead agency shall: (a) Include appropriate conditions in grants, permits or other approvals; (b) Condition funding of actions on mitigation.

*Id.* § 1505.3.

Despite the clear requirements that the USFS must state whether the agency has undertaken all practicable means to minimize or avoid environmental harm, and that the agency prepare a detailed mitigation plan, the National Forest involved in the current project has not done so. The USFS must prepare a comprehensive mitigation plan for the proposed project.

### **III. The EA Inadequately Analyzes The Impacts To Aquatic Systems**

The EA completely disassociates incremental impacts with the collective or long term effects, and states that the proposed action “may impact individual but is not likely to cause a trend to federal listing or loss of viability.” EA, 20-21. Repeated destruction of habitat over time has caused listings in the first place. Continued repeated destruction over time is what will cause species to go extinct. The EA uses criteria that could never acknowledge any significant impacts on a project level. It’s hard to imagine any single project that could be described as having impacts felt across the entire watershed or impacting an entire population. Through such as screen, incremental habitat degradation will continue to take place over time until species become extinct.

A well known cause of negative impacts to streams and wildlife are roads. The EA states that the impact of new road miles will be diminished by building roads upon existing skid trails. However some of these skid trails have been re-vegetated “If soils are dry or frozen...” EA, 12, road construction could happen in the winter and in an area covered with snow. How easy will it be to find existing skid trails in the snow?

The analysis of existing conditions of the creeks and rivers in the planning area is not based on high quality science, fails to adequately describe the current conditions of these aquatic systems, and does not accurately represent the impacts on these systems from the proposed action. The EA acknowledges that the water quality within the watersheds have been altered, and that the Proposed

Alternatives would adversely impact water quality. The Kink subwatershed is already in a degraded condition. “The baseline for sediment is not properly functioning for Kink Creek due to erosion from a road and rock quarries in close proximity to the stream,” EA, 16, and the ARP values for Kink Creek Watershed after the harvest treatment is would result in a ARP of 66.4%, barely above the threshold of concern, which is 65%. (BE, unpaginated.) The road and quarries are scheduled for decommissioning but no funding is currently available, and it the impacts could be felt for years. There is little to no information available on the Austin subwatershed or unnamed tributaries of the Upper Clackamas Watershed.

There is little site-specific analysis of how the Slinky project will impact the aquatic systems in the planning area. For example, in the “Effects” section under “Water Quality and Fisheries” for all action alternatives, the EA states:

“Potential effects to listed, proposed, candidate, or sensitive fish species and their habitat from the proposed project include direct, indirect and cumulative effects. An example of direct effects *may* include increased levels of fine sediment in local streams generated during road building, logging, and hauling. An example of indirect effects *may* include increased amounts of fine sediment downstream in rivers or at the intake of municipal water providers, due to erosion from harvest units and roads. Cumulative effects in this watershed would focus around changes in the timing and/or magnitude of flow events resulting from past, present, and future forest conditions.”

EA, 17 (emphasis added). The courts have held that this type of generalized impact assessment regarding potential impacts and possible effects violates NEPA. *Idaho Sporting Congress v. Thomas*, 137 F.3d 146 (9<sup>th</sup> Cir. 1998). Moreover, beneficial uses in the watershed (such as public domestic water supply, private domestic water supply, irrigation, salmonid fish rearing (inland trout), salmonid fish spawning (inland trout), resident fish and aquatic life, wildlife and hunting, fishing, boating, water contact recreation, and aesthetic quality) have been adversely affected by past management activities on federal and private lands in the vicinity.

The riparian areas in the planning area are admittedly not properly functioning. In both the Kink Creek and the Austin Creek subwatersheds, Riparian Reserves are labeled “at risk”. (BE, unpaginated). Moreover, the road system is actively contributing a large amount (albeit unquantified) of sediment to aquatic systems in the Kink Creek planning area. Given this situation, it is likely that there will be adverse watershed effects from the Slinky timber sale, even though the Forest Service fails to admit that this will occur. We reiterate that the Clean Water Act does not permit “short term” degradations of water quality, and that any project that proposes such degradations is unlawful.

We note that the USFS also has an obligation to physically survey the reaches of the creeks, streams, and tributaries in the planning area in order to determine the number of pools, riffles, down woody debris, and other features that are present in the waterbodies in the planning area. Without this key information, the Mt. Hood National Forest is precluded from making any determination regarding the significance of the proposed project. When such information is lacking or when there are significant questions regarding the impacts of a project, the USFS has an obligation under NEPA to obtain the missing information. 40 C.F.R. § 1502.22 (duty to obtain missing information or state why it could not be obtained). The Mt. Hood National Forest must obtain the missing information on stream conditions in an EIS, or the Slinky sale must be withdrawn. The USFS should fully disclose and

discuss the impacts to the environment from the proposed project in an EIS. The failure to follow one of these courses of action will violate NEPA.

## **A. Sedimentation Will Increase As A Result Of The Slinky Timber Sale**

The EA states that “Temporary road construction may pose a risk to water quality and fish by contributing sediment to streams, EA, 15, but it does not indicate the extent of impairment of water quality due to increases in sedimentation, thereby failing to disclose the direct and cumulative impacts of the sale. The Ninth Circuit has held that “general statements about ‘possible’ effects and ‘some risk’ do not constitute a ‘hard look’ absent a justification regarding why more definitive information could not be provided.” *Neighbors of Cuddy Mountain v. United States Forest Serv.*, 137 F.3d 1372, 1380 (9<sup>th</sup> Cir. 1998). If the USFS cannot assess the impacts to aquatic systems as a result of the proposed project, then NEPA demands that the agency prepare an environmental impact statement. 40 C.F.R. § 1508.27 (requiring an EIS when the effects on the human environment are “highly uncertain or involve unique or known risks”).

### 1. Direct Impacts From Sediment On The Planning Area.

The EA and supporting documents indicate that the planning area is experiencing significant sedimentation from anthropogenic sources. The fact that the area is already degraded as a result of sediment input and that the Slinky timber sale will exacerbate that condition precludes additional management in the Slinky planning area.

The EA notes that sediment will be generated from various sources in the Slinky planning area. Road reconstruction, closure, decommissioning, landings, road crossings, commercial logging, and culvert replacement all represent sediment vectors. There is no quantification of the amount of sediment that may be introduced from these activities. NEPA requires the agency to quantify and qualify the extent of direct and indirect impacts as a result of its activities. 40 C.F.R. 1508.8.

There are serious and significant effects associated with this sale, and the Forest Service has no evidence to support the conclusion that all impacts can be adequately “lessened” by implementation of BMPs. Because of the water quality limited nature of the waterways in the planning area, a “lessening” of effects is not what is required: the Forest Service must *prevent* additional impairment of water quality. Moreover, the Ninth Circuit has held that “general statements about ‘possible’ effects and ‘some risk’ do not constitute a ‘hard look’ absent a justification regarding why more definitive information could not be provided.” *Neighbors of Cuddy Mountain v. United States Forest Serv.*, 137 F.3d 1372, 1380 (9<sup>th</sup> Cir. 1998). Because the administrative record indicates that sedimentation will likely occur from the proposed alternatives, the Forest Service must withdraw the proposed project or eliminate those aspects of the Slinky sale that will degrade water quality. Finally, The EA does not disclose the threshold of significant impact from the Slinky project.

### 2. Cumulative Impacts From Sediment On The Planning Area

There are numerous ongoing activities in the planning area, such as timber harvest, fishing, camping, road construction, channel stabilization, and culvert repair. However, there is no actual analysis of how the effects of these activities combine to affect the environment. NEPA requires the agency to address the impacts “on the environment which result from the incremental impact of the action when



added to other past, present, and reasonably foreseeable future actions...cumulative impacts can result from individually minor but collectively significant actions taking place over a period of time.” 40 C.F.R. § 1508.7. The courts have also held that the failure to conduct a cumulative impacts analysis is fatal to a project. *Neighbors of Cuddy Mountain v. United States Forest Serv.*, 137 F.3d 1372 (9<sup>th</sup> Cir. 1998); *Idaho Sporting Congress v. Thomas*, 137 F.3d 1146 (9<sup>th</sup> Cir. 1998); *Muckleshoot Indian Tribe v. U.S. Forest Serv.*, 177 F.3d 800 (9<sup>th</sup> Cir. 1999).

The Forest Service should have included in its cumulative impacts analysis a discussion of how ongoing and past logging projects, hydropower development, and the proposed project all combine to affect the planning area. The Ninth Circuit has held that “general statements about ‘possible’ effects and ‘some risk’ do not constitute a ‘hard look’ absent a justification regarding why more definitive information could not be provided.” *Neighbors of Cuddy Mountain v. United States Forest Serv.*, 137 F.3d 1372, 1380 (9<sup>th</sup> Cir. 1998).

### 3. The Slinky Environmental Assessment Is Inadequate Because It Does Not Include Monitoring for Water Quality Violations Nor A Mechanism To Deal With Such Violations.

The EA does not include provisions to monitor water quality impacts on a site specific level to ensure that water quality standards are met, nor does it include provisions to respond if the effects on aquatic systems are greater than anticipated. The courts have held that all analysis of the effects of a project must be assessed in the contemporary environmental document. *City of Tenakee Springs v. Clough*, 915 F.2d 1308, 1313 (9<sup>th</sup> Cir. 1990).

### 4. The Slinky Timber Sale EA Is Flawed Because It Does Not Include Adequate Mitigation Measures For Aquatic Systems.

Although the EA includes a number of mitigation measures for the Slinky Timber Sale, it does not indicate how it intends to ensure compliance with the measures or whether these measures will be effective. Moreover, the EA does not indicate how ongoing monitoring will be funded or what the agency will do if it discovers that the BMPs are not properly functioning. NEPA requires the USFS to include in the environmental analysis a discussion of all aspects of a proposed project, including mitigation plans. 40 C.F.R. § 1502.14(f). The courts have held that the USFS is obligated to detail in an EA the mitigation measures for the project. *Robertson v. Methow Valley Citizen’s Council*, 490 U.S. 332, 353 (1989).

### 5. The reliance on Best Management Practices (BMPs) as sufficient mitigation for sediment impacts to aquatic systems is flawed.

The USFS seems to claim that the direct sediment input from timber harvest in addition to any other sources of sediment will be sufficiently mitigated by the use of Best Management Practices (BMPs) to make the effect of the sedimentation negligible. “State Water Quality Standards, and the Clean Water Act, would be met for this alternative as designed and through adherence to Best Management Practices. EA, 19. While the use of BMPs is to be encouraged in timber projects, we note that the use of these measures is not in itself sufficient to ensure compliance with the Clean Water Act (CWA). *Northwest Indian Cemetery Protective Ass’n v. Peterson* 795 F.2d 688, 697 (9<sup>th</sup> Cir. 1986) (holding that compliance with BMPs does not equate to compliance with the CWA). Indeed, the USFS assumes that the implementation of BMPs will sufficiently mitigate any problems that the proposed

project will have on aquatic systems, but offers no proof of this assertion. Consequently, this assumption is flawed and violates the law.

Despite adverse conditions and vague predictions of effects from the Slinky project, the USFS is proposing extensive logging in impaired areas rather than urgently needed restoration. The USFS fails to include an adequate discussion of the effect that this project will have on sediment input, and therefore violates NFMA, which requires the agency to conserve aquatic resources. 36 C.F.R. § 219.27(a)(1). A failure to evaluate the impacts to aquatic systems from all potential sources of sediment violates NEPA, which requires the USFS to assess the impacts of all activities associated with the proposed project in a single environmental document. 40 C.F.R. § 1502.16. Moreover, by failing to discuss the cumulative sediment input because of the Slinky Timber Sale and its associated actions, the USFS violates the MHLRMP, which requires the USFS to drop projects that will not or do not meet Oregon water quality standards. If the proposed project violates Forest Plan standards (which is unknown because the EA is fatally vague), then the project will also violate NFMA's requirement that site-specific projects remain consistent with area forest plans. 16 U.S.C § 1604(i); 36 C.F.R. § 219.10(e).

#### 6. The Timber Sale EA Is Flawed Because It Requires The Construction Of Unnecessary Roads That Will Degrade Water Quality

The EA calls for building .4 miles of “temporary” roads along with several miles of road reconstruction. Based on all the available science, it is irresponsible to build new roads—either “temporary” or permanent in the Oak Grove and Upper Clackamas watersheds.

The impacts of roads include increased sediment input, fragmentation of habitat, stream crossings, introduction of exotics, increased peak flow, extension of drainage density, increased interaction between humans and wildlife, and soil productivity loss, to name a few effects. **The adverse impacts of roads is why the MHLRMP has required that open road densities do not exceed 3.0 miles per square miles throughout the Forest at large,** and not exceed 2.0 miles per square miles within inventoried elk winter range and 2.5 miles within inventoried elk summer range. The EA admits that roads “may pose a risk to water quality and fish by contributing sediment to streams.” EA, 15. The Oak Grove Watershed’s current open road density is 3.7 miles per square mile, as noted in Appendix 3 of Roads to Ruin: 1500 Miles of Destruction (Shapiro, 2002) which references Clackamas Ranger District Elk Analysis Area.

The latest figures on road density in the Austin segment of the Upper Clackamas Watershed indicate it is 3.6 miles per square mile. As of 1998, there has been a 9% increase in drainage network due to the construction of roads in that watershed, resulting in an “at risk” baseline. In the Kink sub watershed, baseline road density calculations are not available, but due to the fact that there are roads in the valley bottom, it is put it in the “at risk” category. (BE, unpaginated). Yet despite the fact that road densities are either unknown or have already been exceeded across the project area sub-watersheds, the Proposed Action calls for building more roads. The MHLRMP precludes additional road construction because the status quo already violates MHLRMP requirements; therefore the Forest Service should refrain from road work in order to comply with NFMA. 16 U.S.C. § 1604(i) (requiring consistency with local land and resource management plans); 36 C.F.R. § 219.10(e) (same).

While the action alternatives would also close roads after use, the Mt. Hood National Forest has a poor record of successfully closing roads and restoring them to a hydrologically stable condition. Despite the current high road density and the certain degradation that existing open, “closed,” and new roads will cause, the USFS failed to adequately discuss this issue in the EA, which is required by law in complete environmental analyses. *Sierra Club v. Morton*, 510 F.2d 813, 824 (5<sup>th</sup> Cir. 1975) (requiring the agency to “disclose the history of success and failure of similar projects”). Instead, the USFS relies on closing the road as mitigation for impairment that the Slinky project will cause. Road closure in the past has often been ineffective. Despite the use of the term, “Temporary” to describe the roads proposed for the Proposed Action, the effects of these roads are not “temporary.” These roads contribute to cumulative impacts, as impacting the area from the time they are built until they are decommissioned, assuming it would be done successfully.

Decommissioning roads cannot offset the soil disturbance from the new roads and the logging operation, even if the USFS is completely successful in re-vegetating the area at some point in the distant future. Road density doesn’t automatically return to the prior level after a road has been decommissioned, as the EA claims. It often can take 20 years to successfully revegetate a road, and in the meantime, environmental impacts of the road are felt. But the EA doesn’t pretend that the roads will even be given the chance to revegetate, as it states that these “temporary” roads will likely be used again. EA, 68. Given that there is thus a high chance that these roads will be revived before they even have a chance to fully recover, they cannot in all honesty be called “temporary”. A more accurate term would be “stealth” roads, as these roads exist to facilitate timber sales that otherwise would not be feasible or permitted due to excessive road densities. However, due to semantics, these roads are allowed to go undetected in formal road inventories. All units that require the building of these stealth roads should be removed from the proposed action.

The EA neglects to discuss the beneficial aspects of the No Action Alternative in relation to roads. Remarkably, it asserts that there will actually be negative effects to following the No Action Alternative, because this alternative does not include reconstruction of road 5720, and therefore could pose an elevated safety hazard to the public. EA, 67. It is absurd logic to say that not logging Slinky poses a risk to the public. If Road 5720 is unsafe, then the USFS should simply close it or address the problem! The fact that there might not be funding available to do so makes the point that new roads should not be built given the USFS doesn’t have adequate resources to maintain its existing road system. A potential future safety hazard on a road should not be used to justify a logging operation.

The EA does not analyze the current road density or the cumulative effect of this road on the surrounding area. The EA also does not offer specific road density information for the entire Slinky planning area. This is obviously necessary in order to assess accurate cumulative impacts to the area, and in order to determine whether it will result in irreparable degradation. It is also critical, in determining road densities, that figures include roads that are actually being used by motorized vehicles. Bark recently released a report on the state of roads in the Clackamas River Ranger District of Mt. Hood. It found that 25% of the roads that were supposed to be closed were not. Bark’s study found that gates are often removed and thus ineffective. This does not just apply to roads that were once open to public use and then closed. Bark has identified numerous instances of temporary roads later closed that were being used by ATVs.

In summary, given the consequences of increasing the road density and the small number of acres that will be accessed with the new road, it does not seem like a sound investment of agency resources, let alone a wise ecological decision, to include new road building in this proposal.

Finally, the USFS does not indicate how it intends to compensate for the short- and long-term damage to the watershed caused by reconstructing, upgrading, and building roads in a watershed that already has an excessive road density. The project should not go forward until the USFS can ensure compliance with the CWA and LRMP standards designed to protect water quality.

The USFS should demonstrate that it has considered the following resources in making its determination to build new feet of road in the Slinky Project, and if it dismisses the recommendations within these reports, explain why it has excluded these recommendations from its analysis.

1. Robert Coats, et al., *Assessing Cumulative Effects of silvicultural Activities*, (1979) (significant increases in peak flow post-harvest)
2. Robert Harr, et al., *Changes in Storm Hydrographs after Road Building and Clear-Cutting in the Oregon Coast Range*, 11 Water Resour. Res. 436-44 (1975) (same; timber harvest leads to soil compactions and increased floods)
3. ROBERT HARR, ET AL., PACIFIC NORTHWEST RESEARCH STATION, U.S. DEP'T OF AGRICULTURE, CHANGES IN STREAM-FLOW FOLLOWING TIMBER HARVEST IN SOUTHWESTERN OREGON, PNW-249 (1979)
4. ROBERT HARR, ET AL., PACIFIC NORTHWEST RESEARCH STATION, U.S. DEP'T OF AGRICULTURE, EFFECTS OF TIMBER HARVEST ON RAIN-ON-SNOW RUNOFF IN THE TRANSIENT SNOW ZONE OF THE WASHINGTON CASCADES, PNW 88-593 (1989)
5. J. Jones & G. Grant, *Peak Flow Responses to Clear-Cutting and Roads in Small and Large Basins, Western Cascades, Oregon*, 32 Water Resour. Res. 959-74 (1996)
6. K. Lyons & L. Beschta, *Land Use, Floods, and Channel Changes: Upper Middle Fork Willamette River, Oregon (1936-1980)*, 19 Water Resour. Res. 463-71 (1983)
7. M. Reid & T. Dunne, *Sediment Production from Forest Road Surfaces*, 20 Water Resour. Res. 1753-61 (1984)

## **B. Aquatic Conservation Strategy**

The third measure of the relative risk of cumulative watershed impacts is the Aggregate Recovery Percentage (ARP). This method estimates the effects of forest cutting on peak flows in the Cascades. There are many problems with ARP modeling. The use of Aggregated Recovery Percentage only measures the potential for damage from a rain-on-snow event, even though many factors contribute to watershed impacts, not just rain-on-snow events. It does not address site-specific stream channel characteristics which reveal how much additional peak flow created by further roading and clearcutting a stream system can handle without degradation. Nor does it model the impacts of sedimentation. ARP modeling is inaccurate because it considers a stand with 70% canopy closure and an 8" average dbh as 100% recovered. In fact, larger trees (such as those that already exist in proposed units) have deeper roots, provide higher quantities of downed wood (which intercept runoff), have a more complex soil structure and transpire more water (and from deeper in the soil), all of which equates to a comparative advantage in coping with disturbance.

The ARP model is also inadequate because it does not consider the design of the transportation system. The greatest impact from peak flows and rain-on-snow events comes when water interfaces

with a poorly designed road system. The road system in the Kink Creek drainage is just such a system, with a number of stream crossings, unstable fills and a great deal of mid-slope construction.

The ARP model is inadequate because it does not consider adverse effects that do not affect tree canopies but can temporarily increase sedimentation, such as culvert replacement, road decommissioning, skid trail subsoiling and waterbarring, etc. EA, 23.

The ARP model's predictions are often questionable because of data "lumping" and imprecise measurements. Some Ranger Districts, for instance, have not included existing roads as openings for ARP calculations. In hydrological models, roads remain as permanent openings over time. Other Ranger Districts merely used an "average" estimate of 2% of the subdrainages' area as roads. In contrast, many other national forests use a method which models hydrological recovery on a very site/stream specific basis. These models exist and should be employed in a future EIS for the Slinky project.

Both the Oak Grove Fork Watershed Analysis and the Upper Clackamas Watershed Analysis show that the streams in the project area are currently not performing properly due to past management activity. A number of Slinky units and portions of units are on a steep gradient (demonstrated by the switch in proposed logging method), which augments the force of peak flow energy delivery and attendant erosion and scour effect. The infrequency of large pools and large woody debris recruitment problems also contributes to a channel morphology that cannot easily diffuse the energy from peak flows. The EA's claims to a functioning hydrologic system based on the ARP model are in fact contradicted by many of the other findings from the two relevant watershed analyses.

ARP values must also be rejected because at best the reasoning only indicates that the Slinky project area has consistently withstood the effects of peak flows *in the past*. It does not indicate that it will withstand peak flows after another 184 acres of clearcuts and additional road building (i.e., openings collect snow and increase the effect of rain-on-snow) in the context of a changing climate. It is worth noting that the 1996 storm was not really a 50 year event. There was a worse storm in 1964, and a storm of similar intensity the very next year, in 1997. Given the increased incidence of *El Nino* weather events and increasing evidence of regional weather changes acknowledged in the 2001 Mt. Hood Monitoring Report, the Slinky project area is likely to experience more severe "50 year storms" and significant peak flow events in the near future.

The Forest Service must come to terms with the obvious conclusions that follow from the facts about hydrological health in the Slinky planning area. The Slinky area contains many significantly compromised subwatersheds. Cutting timber, reconstructing roads, building landings, driving thousands of log trucks over 5710/5720/5730 and other logging-related activities will not help matters, they will exacerbate the already poor condition of the watershed. An EIS is needed to adequately gauge the potential for significant impacts.

#### **IV. The Slinky Ea Inadequately Analyzes The Impact To Species**

The Slinky EA fails to adequately analyze the impacts on a number of wildlife species, (including threatened, endangered, and sensitive species), by removing snags and downed trees associated with this project. Many of these species depend on down wood for survival; removing this valuable habitat component threatens the viability of these species.

If any management is necessary, it is to restore the hydrologic and terrestrial functions that existed pre-settlement; the purpose and need of the Slinky project do not meet that goal. We recognize that the planning area has been adversely affected by past management activities, but clearly the Slinky Timber Sale is not the appropriate way to restore the area. Because the agency has not substantiated the appropriateness of the proposed project, the Forest Service should not implement the Slinky Timber Sale as described in the EA.

Snags are a very important part of the Pacific Northwest's ecosystem, and currently there is a severe lack of snags, with significant impact to the landscape. The OGWA states that "many species in the Pacific Northwest evolved to use large snag and logs that were historically abundant in the landscape, even in early and mid-seral stands. The loss of snag and log density from managed stands affects biodiversity and potentially could cause a loss of critical function in the landscape such as control of forest insects" (OGWA, 61). It affects not only residents of the Pacific Northwest but migratory birds as well. "Twenty-seven neotropical migratory bird species occurring within the watershed have significantly declined over the last two decades, based on Breeding Survey data (Sharp, 1992). Of these 27 species, half are snag dependents and insectivorous or birds of prey feeding on forest birds" (OGWA, 61). The EA acknowledges that the Slinky Sale area provides "one of the few sources of high quality snag and down log habitat in the area. EA, 43, the rarity of which is emphasized in the OGWA: "At this time snag levels are below LMP standards in most small saw stands and in all managed stands." (OGWA, 58) Snags in the vicinity are rare and important habitat for an array of species.

These snags will likely be removed in logging. There would be a high chance of mortality, even if a few snags manage to survive the logging operation, as they "would be more prone to wind damage and snow breakage than they were before the stands were harvested" (EA, 43). There would also be a loss of future snags created by naturally falling trees in these units of late Successional forest. And although the EA says that it will remedy any situation where snag goals are not attained at the required 2.4 snags per acre to benefit cavity nesting species, according to the OGWA, "No agreement exists that this level of snag retention provides an equivalent level of biological potential for other snag users (e.g.. bats, orboreal rodents, bluebirds, swallows, and denning carnivores). Indeed, available evidence suggests that it isn't even meeting the needs of the cavity nesting species. Furthermore, the solution, to simply create "new snags" does not adequately replace the loss of habitat, in the short term or possibly even into the foreseeable future. Research has yet to show that these created snags are used by wildlife. ("Created Snag Monitoring on the Willamette National Forest," by Boleyn, Wold, and Byford). The Slinky EA, however, references this very study on created snags to support its argument that created snags in Slinky are adequate to meet the needs of species, omitting key findings of this report that show otherwise. While the report does report that 49% of the created snags had new foraging excavation marks created by "other woodpeckers and other unidentified excavators," the report also details that in general the use of these created snags was between 1 and 2 percent. The Slinky EA's omission of the other salient field observations contained within the report demonstrates highly selective reporting that undermines that validity of this NEPA document.

There were four major field observations highlighted by the Boleyn 2002 report:

1) Foraging use by sapsuckers and pileated woodpeckers: Only 1.5 percent of the snags had new foraging excavations by pileated woodpeckers. Sapsucker use was present on 1.5 percent of the snags.

2) Foraging use by other birds: Nearly half of the created snags monitored (49 percent) had new foraging excavations from other woodpeckers and other unidentified excavators.

3) Nest/Roost cavities in created snags: New cavities were present on 1.2 percent of the snags. Of the 17 snags with new cavities, 2 were naturally created; 1 was girdled; 1 was unknown; and the rest were blasted or saw-topped. Also, of the 17, 2 had class 1 decay, 2 were class 3 decay, and the rest were class 2 decay. The majority of these 17 snags had 80 percent of the bark remaining with 7 having 60 percent of their bark remaining.

4) Use by species other than birds: Evidence of use by species other than birds on the created snags was present on 1.8 percent of the snags. Detecting use by other species was difficult since they did not always leave obvious signs. However, we did observe an unidentified species of bat leaving one created snag and a chipmunk climbing up another."

A future EIS needs to be generated that addresses the effects to species likely to inhabit the area from the diminishment of snags.

We have additional general wildlife concerns. First, it appears as though the Forest did not survey for all Threatened, Endangered, or Sensitive species. This is problematic for several reasons. First, it is impossible for the agency to conclude that there are no significant impacts to listed or proposed species when it fails to analyze the project in terms of impacts to these species. Second, the Endangered Species Act (ESA) requires the USFS to use the best available scientific and commercial data in assessing the impacts to species, which includes surveying for them. 16 U.S.C. § 1536(a)(2). Since population studies are lacking for the Slinky planning area, the USFS is precluded from determining that the project is not likely to adversely affect the listed species under section 7 of the ESA. *Id.* § 1536(b). Proposing an alternative that affects species when there is no information is unreasonable and violates the Administrative Procedure Act (APA). 5 U.S.C. § 706.

Third, the EA fails to conduct an adequate cumulative impacts analysis for wildlife species and their habitat. As the EA points out, there is little high quality habitat in the planning area, but that species are using existing, albeit limited habitat within the planning area. Because species *are* using the limited habitat, removing that habitat has an even more significant impact on species than the removal of other high quality habitat: because there is no more "fall back" habitat available for these species to utilize in the area when this habitat is removed, it is unclear how wildlife species will be affected in the meantime. It is logical to assume that once the remnant habitat is removed through this project, sensitive and old growth forest-dependent wildlife in the planning area will be extirpated from the area, a result clearly unacceptable under NFMA.

Fourth, impacts to wildlife species in the short and midterm are not insignificant, but the agency failed to assess what these impacts would be. Because habitat will not be available for many decades post-project, it is unclear how wildlife species will be affected in the meantime (although habitat conditions can be expected to have been degraded). Again, NFMA does not recognize this outcome as legally acceptable.

The Slinky project would cause nonlisted species to trend towards listing, and listed species to trend toward jeopardy. Oregon Slender Salamander, Cope's Giant Salamander, Baird's Shrew, Wolverine

and Fisher are species about which the District lacks adequate information to conclude that the proposed project would not make their populations trend towards listing in violation of the ESA. *Sierra Club v. Martin*, 168 F.3d 1 (11<sup>th</sup> Cir. 1999). Despite the lack of information on these and other species, the EA erroneously concludes that they will be relatively unaffected by the proposed project. There is no evidence to support the conclusion that removing what remains of suitable habitat for wildlife species will not affect them. Indeed, the facts suggest that these species will be adversely affected in the short and long term.

### **A. Threatened, Endangered, And Sensitive Species**

It is the stated policy of Congress that all Federal departments and agencies “shall seek to conserve endangered species and threatened species and shall utilize their authorities in furtherance of [this] purpose.” Endangered Species Act of 1973, 16 U.S.C. § 1531(c)(1). The Supreme Court has clearly restated congressional policy stating that, “The plain intent of Congress in enacting this statute was to halt and reverse the trend toward species extinction, whatever the cost.” *Tennessee Valley Authority v. Hill*, 437 U.S. 153, 184 (1978). The USFS’s decision to proceed with the Slinky timber sale and adjacent sales is inconsistent with the congressional mandate of the ESA.

Under the ESA, the Forest Service has the responsibility to “insure that any action authorized, funded, or carried out by such agency is not likely to jeopardize the continued existence of any endangered species or threatened species or result in the destruction or adverse modification of habitat of such species.” 16 U.S.C. § 1536. As described below, the record does not support the finding that the proposed sale would not likely adversely affect the northern spotted owl. The proposed sale, along with others in the vicinity, would exacerbate the degraded habitat conditions for this species that already exists on the Forest. The near absence of any recent information from surveys or monitoring of this listed species makes a reasonable analysis of how this project and others proposed will cumulatively affect these species impossible.

To avoid the taking or otherwise jeopardizing of listed species and/or the destruction or adverse modification of critical habitat, the ESA creates a process whereby all federal action agencies must consult with the FWS before the action agency engages in actions that may affect critical habitat or a threatened or endangered species that may be present in the project area. 16 U.S.C. §§ 1536(a)(2). The action agency – here, the USFS – must prepare a biological assessment that describes the anticipated impacts to the target species because of the project. *Id.* § 1536(c)(1). FWS then must issue a biological opinion that “shall . . . [e]nsure that any action authorized, funded, or carried out by such agency. . . is not likely to jeopardize the continued existence of any endangered species or threatened species or result in the destruction or adverse modification of [critical] habitat....” *Id.* §§ 1536(a); (b).

As part of a biological opinion, the FWS must quantify the extent of the incidental take and the effect that the proposed action will have on a listed species’ critical habitat. 16 U.S.C. § 1536(b)(4)(A)(i); (B)(i). To this end, the FWS must consider the impacts to the listed species from the proposed action in conjunction with past and present actions: the “effects of the action.” 50 C.F.R. §§ 402.14(g)(2) – (4); 402.02.

The condition of the species and its habitat prior to the proposed action is known as the “environmental baseline” for the species. 50 C.F.R. § 402.02. The environmental baseline “includes



all past and present impacts of all Federal, State, or private actions and other human activities in the action area; the anticipated impacts of all proposed Federal projects in the action area that have already undergone formal or early section 7 consultation; and the impact of State or private actions which are contemporaneous with the consultation in progress.” 50 C.F.R. § 402.02. Without an adequate environmental baseline, FWS has no way of evaluating the present status of a listed species, and thus cannot rationally decide whether additional impacts on the species may not jeopardize its continued existence.

The failure to make a population-based analysis, combined with the failure to complete current surveys for listed species, creates a significant level of uncertainty regarding the level of impact that this project will have on listed species in the planning area. NEPA requires that when data is not available, an agency should recognize the lack of data and explain why obtaining it was not feasible. 40 C.F.R. § 1502.22. The ESA prohibits the Forest Service from going forward with the proposed sale without ensuring that the project will not result in jeopardy to the species. In light of this, the proposed action alternatives are unreasonably supported, and an EIS should be prepared that addressed population trends in relation to the Slinky Timber Sale and others in the vicinity.

### 1. Fish

There are a number of fish bearing stream in the vicinity of the Slinky planning area, some of which are home to threatened and endangered fish. “Fish bearing streams associated with the Slinky project include Kink Creek, Kelly Creek and several unnamed first and 2<sup>nd</sup> order tributaries to the Oak Grove Fork....All of the tributaries are intermittent in sections but do provide habitat for resident cutthroat trout. EA, 16. The Clackamas River contains the last important runoff wild late-run winter coho in the Columbia Basin, Upper Willamette River Spring Chinook occur in the Clackamas River, as do Lower Columbia River/Southwest Washington Coho Salmon. The Slinky EA acknowledges that habitat of the species will be effected, but doesn’t provide adequate analysis to support the claim that populations therefore won’t be harmed.

### 2. Northern Spotted Owls:

Recently, several conservation organizations, including Bark, filed suit in federal court against the Fish and Wildlife Service (FWS) for violations of the Endangered Species Act (ESA). *Gifford Pinchot Task Force (GPTF) et al. vs. United States Fish and Wildlife Service*. The plaintiffs in that action allege that the FWS has failed to comply with the ESA in failing to track the level of incidental takes issued since the adoption of the Northwest Forest Plan. Without an adequate environmental baseline – which necessarily counts the number of incidental takes issued on each national forest – the FWS cannot legally approve a timber sale, nor can they ensure that each successive sale will not contribute to jeopardy of the species. In addition, plaintiffs allege that clear cutting thousands of acres of critical habitat is degradation and/or adverse modification of critical habitat, in violation of the ESA.

The same problems identified in *GPTF et al. v. FWS* are present in the Slinky timber sale. The Forest Service has neither assessed nor adjusted the spotted owl environmental baseline for the Slinky planning area. It has not completed population surveys for the species as required by the ESA, and has no idea how many owls and owl pairs are located in the Slinky planning area. Using a habitat model as a surrogate for population surveys may be acceptable in the context of assessing the impacts of timber sales on management indicator species, but threatened and endangered species demand greater protection pursuant to the ESA. While it is true that *GPTF et al. v. FWS* involves the FWS

and not the USFS, the USFS has the same legal obligation to comply with the ESA in *preparing* timber sales as the FWS does in refraining from *approving* timber sales that do not protect the owl from jeopardy.

This issue is currently before the district court, and presumably will be appealed to the Ninth Circuit Court of Appeals regardless of the outcome at the lower court level. While this issue is under litigation, timber sales that have been prepared by the USFS and approved by the FWS may be under injunctive relief.

We strongly urge the USFS to reconsider implementing the Slinky timber sale because of its adverse effects on the northern spotted owl. Rather than offering a timber sale that both the USFS and FWS acknowledge will adversely affect owls and may be forestalled by litigation, we suggest that the USFS reconsider the Slinky sale and to remove any possibility of adverse impact to this species. This may be accomplished by changing harvest prescriptions to thinning, removing all old growth harvest components, and dropping all units that will degrade owl habitat.

a. Lack of current spotted owl population surveys precludes implementation of the Slinky timber sale.

The Slinky Pre-EA acknowledges the project would likely be implemented beyond the period during which spotted owl survey findings are considered valid. Since the Mt. Hood National Forest does not have current population information for the Oak Grove and Upper Clackamas watersheds, there is little basis for assessing how the population would be cumulatively affected by the Slinky timber sale. Field experience also suggests that in fact, there are likely many more pairs of owls in the planning area than have been located by the USFS.

As part of a biological opinion, the FWS must quantify the extent of the incidental take and the effect that the proposed action will have on a listed species' critical habitat. 16 U.S.C. § 1536(b)(4)(A)(i); (B)(i). To this end, the FWS must consider the impacts to the listed species from the proposed action in conjunction with past and present actions: the "effects of the action." 50 C.F.R. §§ 402.14(g)(2) – (4); 402.02. In nearly all cases of consultation on the Mt. Hood National Forest, FWS has adopted the USFS's biological assessment as FWS's determination of effect on the listed species.

The condition of the species and its habitat prior to the proposed action is known as the "environmental baseline" for the species. 50 C.F.R. § 402.02. The environmental baseline "includes all past and present impacts of all Federal, State, or private actions and other human activities in the action area; the anticipated impacts of all proposed Federal projects in the action area that have already undergone formal or early section 7 consultation; and the impact of State or private actions which are contemporaneous with the consultation in progress." 50 C.F.R. § 402.02. Without an adequate environmental baseline, FWS has no way of evaluating the present status of a listed species.

The failure to make a population-based analysis, combined with the failure to complete current spotted owl surveys, creates a significant level of uncertainty regarding the level of impact that this project will have on owls in the Oak Grove and Upper Clackamas watersheds and nearby lands. Indeed, the Biological Evaluation suggests that smaller home ranges may be in use and/or that owls might be using fragmented habitat out of lack of better available habitat. Biological Evaluation, p.B-7; EA p.37. This is an important factor in terms of the owl's survival: either there are more owls doing "better," or the species is doing "worse" because individuals are confined to poor quality

habitat. Without population surveys, it is impossible to make a reasoned determination as to the impacts on the species from the proposed sale.

NEPA requires that when data is not available an agency should recognize the lack of data and explain why obtaining it was not feasible. 40 C.F.R. § 1502.22. The ESA prohibits the Forest Service from going forward with the proposed sale without ensuring that the project will not result in jeopardy to the species. In light of this, the proposed action was unreasonably supported, and an EIS should be prepared that addresses population trends in relation to the Slinky and adjacent sales. The EA refers to “potential for species occurrence” and favorable habitat, but makes no mention of the lack of population survey data EA p.36. Further, the Biological Evaluation (BE) reports a high potential for Northern Spotted Owl occurrence, yet limits species evaluation to aerial photo interpretation. BE p. B-4, B-5.

b. Lack of assessment of impacts to and protection of Critical Habitat Unit OR 10 precludes implementation of the Slinky timber sale, which will result in the adverse modification of Northern Spotted Owl Critical Habitat.

One of the FWS’ consultation duties is to ensure that other federal agency actions do not result in the destruction or adverse modification of designated critical habitat. 16 U.S.C. § 1536(a)(2). In addition, Forest Service regulations require measures for preventing the destruction or adverse modification of critical habitat. 36 CFR § 219.27 (a)(8). “Critical habitat” is defined in the ESA as “[t]he specific area within the geographic area occupied by a species . . . on which are found those physical and biological features (I) essential to the conservation of the species, and (II) that may require special management considerations or protections.” *Id.* § 1532(5)(A)(i). “Destruction or adverse modification” of critical habitat is defined as “direct or indirect alteration that appreciably diminishes the value of critical habitat[,] . . . includ[ing], but . . . not limited to, alterations adversely modifying any of those physical or biological features that were the basis for determining the habitat to be critical.” 50 C.F.R. § 402.02. “Conservation” is further defined as “to use and the use of all methods and procedures necessary to bring an endangered species to the point at which measures provided pursuant to this Act are no longer necessary.” 16 U.S.C. § 1533(3).

When designating critical habitat for the Northern spotted owl, the FWS recognized that critical habitat is meant to promote recovery of the species by stating that “the Act’s definition of critical habitat indicates that the purpose of critical habitat is to contribute to the species’ conservation, which by definition equates with recovery.” 57 Fed. Reg. 1822 (1992). Both the ESA and the FWS’ Northern spotted owl critical habitat rule reveal that the purpose of designating critical habitat, and thus the FWS’ role in protecting the habitat from activities that might adversely affect the habitat, is clearly for the recovery of the species.

The proposed action proposes “removing 184 acres of spotted owl NRF habitat” (156 in Oak Grove and 28 acres in Upper Clackamas),” removing a total of 108 acres of designated critical habitat within northern spotted owl Critical Habitat Unit OR-10. Slinky Biological Evaluation, p.B-7. Units 1 and 2 also occur within the Roaring River/Upper Clackamas Area of Concern that is noted within the North Willamette LSR Assessment. By definition, these units are critical to the survival and recovery of the owl. Current timber sales are also expected to remove 1,355 acres of suitable habitat from the landscape. In addition, the BE notes that “timber harvests in the past several decades have removed additional thousands of acres of suitable habitat from the landscape” and “A combination of the loss

of suitable habitat and increase in fragmentation has substantially reduced the amount of suitable habitat for spotted owls currently present within these watersheds” BE, p.B-8.

We question how a loss of habitat from the CHU through timber harvest in addition to clear cutting the Slinky timber sale will not “appreciably diminish the value of critical habitat” as it relates to the species’ recovery. 16 U.S.C. § 1536(a)(2); 50 C.F.R. § 402.02. The EA does not adequately discuss the cumulative impact of the present sale in addition to other uncut sales or past sales’ effect on the amount of critical habitat remaining in CHU 10. It merely mentions that habitat conditions have taken into consideration the impacts of 12 adjacent past and planned timber sales. It makes no mention of the number of incidental takes in these sales, total habitat loss, or cumulative impact to the population. EA p.37 & 38. Although those sales affected other spotted owl pairs than those impacted in the Slinky sale, the Slinky EA should have discussed the effect of past, present, and future projects on the same resource (i.e. CHU OR 10). 40 C.F.R. § 1508.7. Implementing a decision that does not comply with the ESA will be arbitrary and capricious. 5 U.S.C. § 706(2)(A).

The evaluation of impacts to Critical Habitat Unit OR 10 has not been conducted. No analysis of the condition, amount, and location of functional spotted owl habitat in the Late-Successional Reserve or Riparian Reserves adjacent to the planning area was provided in the Slinky Pre-EA or supporting documentation. The EA states that habitat viability “is provided by the system of reserves,” but fails to substantiate this claim with population data or analysis. EA p.38. There is no discussion of impacts from additional fragmentation of matrix lands on the ability of the CHU to function as critical habitat. In addition, there is no discussion of whether CHU OR 10 is meeting its specific role within the network of CHUs.

Instead, the USFS downplays adverse effects to the northern spotted owl due to the action alternatives. It states that the consequences of the proposed action, while posing a high risk to individuals, does not a risk to the population, implying that small parts don’t add up to a whole and that known short term risk is outweighed by anticipated long term benefit. EA, p.36-7. In this case potential benefits to the northern spotted owl will be irrelevant if the species is extirpated prior to then. The negative effects in the reductions in NRF habitat are dismissed as not being significant on a watershed scale, thus not having a significant impact on the Critical Habitat Unit EA, p.36-37. The EA also tries to downplay the value of the owl habitat as being too fragmented, stating that “Slinky harvest units have little to no interior habitat and are mostly edge habitat” EA, p.37. However, this section goes onto admit that “it is not unknown for spotted owls to nest in fragmented pieces of suitable habitat. This is especially so considering the current condition of spotted owl habitat on a regional scale and the loss of habitat and increase in fragmentation that has occurred in its habitat within the last half century. This has resulted in the owl being found more often in fragmented habitat even though that is not considered its preferred habitat” EA, p.37 However, the Oak Grove Watershed Analysis (OGWA) states that no local data on owl dispersal within the area exists, and that the owls could be occurring in all portions of the watershed through suitable dispersal habitat. OGWA, p. 62. The USFS has not done any monitoring on owl dispersal since the watershed analysis was conducted that demonstrates that this area is not being used actively as dispersal habitat.

In the response to comments on the Slinky Preliminary Assessment (SPA), the USFS states that “this action is consistent with the Northwest Forest Plan; the agency’s contribution toward Northern spotted owl recovery” (A-1). As we have stated repeatedly, when it comes to critical habitat, compliance with the Northwest Forest Plan is irrelevant. The land designations and objectives

described in the Northwest Forest Plan, the Mt. Hood Forest Plan or any other policy do not supercede the creation of and priorities for Critical Habitat Units for Northern Spotted Owls. Even if LSRs and Riparian Reserves were fully functional, with at least 80% of each late seral forest as projected by FEMAT (IV-55), nearby LSRs or other reserves cannot meet the critical habitat function. LSRs are currently not fully functional. Only 51% of the forested lands in LSRs analyzed in the North Willamette Late Successional Reserve Assessment (NWLSRA) are late-successional (NWLSRA, 3-9). The nearest LSRs to the Slinky project are functioning even more poorly than the NWLSRs on a whole, and certainly not well enough to sacrifice designated CHU in the matrix. Roaring River (LSR# 207A) is 44% late successional and 29% early seral. Upper Clackamas (LSR# 207B) is 45% late successional and 27% early seral. Given the narrow LSR connectivity corridor between the Roaring River LSR and the heart of the Upper Clackamas LSR, which is adjacent to the Ollalie Lake Scenic Area and the Wilderness, Northern Spotted owl habitat in the Oak Grove Fork is important for connectivity.

Riparian reserves are not fully functional either. The Oak Grove Watershed Analysis notes that the riparian reserves that are supposed to function as connectivity corridors (Shellrock Creek and Kink Creek) have significantly more early-seral stands than the range of natural variation (page 93). The SPA states units 1 and 2 are located in “an important connectivity area.” With the planned connectivity areas not functioning, it is even more important to retain functioning habitat with designated critical habitat.

USFS, in the response to our comments, goes on to say that the Slinky project “is consistent with the endangered species act and consultation with the U.S. Fish and Wildlife Service has been completed and they concur that the project would not jeopardize the continued existence of the spotted owl.” Again, this argument is irrelevant. Within Critical Habitat Units, agencies have the responsibility to promote recovery of ESA listed species, not just avoid jeopardy of Northern spotted owl populations. When designating critical habitat for the Northern spotted owl, the FWS recognized that critical habitat is meant to promote recovery of the species by stating that “the Act’s definition of critical habitat indicates that the purpose of critical habitat is to contribute to the species’ conservation, which by definition equates with recovery.” 57 Fed.Reg. 1822 (1992). Both the ESA and the FWS’ Northern spotted owl critical habitat rule reveal that the purpose of designating critical habitat, and thus the FWS’ role in protecting the habitat from activities that might adversely affect the habitat, is clearly for the recovery of the species.

FWS designated CHU’s for ecological reasons. As mentioned in the Slinky Biological Evaluation (BE), “timber harvests in the past several decades have removed additional thousands of acres of suitable habitat from the landscape” and a “combination of the loss of suitable habitat and increase in fragmentation has substantially reduced the amount of suitable habitat for spotted owls currently present within these watersheds.” While logging suitable habitat for an ESA listed species in decline is alarming, destroying suitable habitat in CHU’s is also illegal.

Not one time in the Slinky Environmental Assessment does the Forest Service discuss the effect of this project on the recovery of owl populations, only that this project will not jeopardize the owl population. Regardless of the small overall change in suitable habitat in the entire CHU, no agency can successfully argue that clearcutting owl habitat contributes to recovery. Destroying habitat in a CHU will “appreciably diminish the value of critical habitat” as it relates to the species’ recovery. 16

U.S.C. § 1536(a)(2); 50 C.F.R. § 402.02. Owls likely forage in the Slinky project area. USFS or any other agency has not demonstrated that they do not. Reducing NRF habitat from which to hunt hardly contributes to recovery.

Lastly, the response to our comments about degrading Critical Habitat echoes the Environmental Assessment and the Decision Notice, which state that this project will not result in adverse modification of spotted owl critical habitat (PA page 12, DN page 4. Response to comments A-1). This is simply not true. This project results in destruction and adverse modification of suitable habitat within a CHU. "Destruction or adverse modification" of critical habitat is defined as "direct or indirect alteration that appreciably diminishes the value of critical habitat[,] . . . includ[ing], but.. not limited to, alterations adversely modifying any of those physical or biological features that were the basis for determining the habitat to be critical." 50 C.F.R. § 402.02.

Units 1, 2, 15, 17 and 151 lie wholly within CHU OR-10, and a portion of units 5 and 31 also occur in this CHU. The EA admits that this project will "remove 108 acres of both dispersal and NRF habitat from the CHU." EA p.37. The EA goes on to admit that the fragmented old growth stands targeted for clearcutting by this project can be important habitat for owls "considering the current condition of spotted owl habitat on a regional scale and the loss of habitat and increase in fragmentation that has occurred in its habitat in the last half century. This has resulted in the owl being found more often in fragmented habitat even though that is not considered its preferred habitat." EA p.37.

While we recognize that this is no fault of the USFS, the USFWS has consistently failed to analyze what the effect of the loss of critical habitat would be on the recovery of the species, ignoring both the plain meaning of the statute and USFWS's own conclusions in the Northern spotted owl critical habitat designation. The Fifth Circuit ruled in *Sierra Club v. U.S. Fish and Wildlife Service*, No. 00-30117 (5th Cir. Mar. 15, 2001), that the U.S. Fish and Wildlife Service and National Marine Fisheries Service had improperly interpreted the Endangered Species Act to provide for the designation and protection of critical habitat essential to the "survival" of listed species. According to the court, the Act calls on the Services designate and protect critical habitat essential to the "recovery" of listed species. The Endangered Species Act, noted the court, defines "conservation" as "the use of all methods and procedures which are necessary to bring any endangered . . . or threatened species to the point at which the measures provided by the [Act] are no longer necessary." This, said the court, "is a much broader concept than mere survival" that "speaks to the recovery of a threatened or endangered species." As the Services' standard for destruction or adverse modification protected critical habitat only from actions decreasing the likelihood of the *survival and recovery* of a listed species, the court found it inconsistent with Congress' intent as expressed in the Act.

The SPA and the DN relies on the 1999 U.S. Fish and Wildlife Service Biological Opinion for Fiscal Year 1999 Habitat Modification Projects in the Willamette Province. USFWS has concluded that proposed actions do not destroy or adversely modify designated critical habitat without considering all of the relevant factors concerning critical habitat, violating the clear and unambiguous language and intent of the ESA pertaining to critical habitat. 16 U.S.C. §§ 1536(a)(1), (a)(2). Because FWS has failed to adequately analyze the effect of the destruction of critical habitat on the recovery of the Northern spotted owl in making its determination in consultation that proposed actions will not result

in the destruction or adverse modification of critical habitat, FWS has failed to perform a non-discretionary duty in violation of the APA. 5 U.S.C. § 706(1).

Additionally, because FWS issues biological opinions that allow destruction or adverse modification of critical habitat without analyzing the effect of its impact on critical habitat for the recovery of the species, FWS has issued, and continues to issue, biological opinions that are arbitrary and capricious, in violation of the APA. 5 U.S.C. § 706(2)(A).

d. Project design failure.

The USFS failed to design Slinky – or any other of the proximate sales – to reverse the downward spotted owl population trend. All of the Slinky units are regeneration harvest, and the majority of the harvest prescriptions for the surrounding sales focus on clear cutting. We question the prudence of a timber sale that results in the degradation of the habitat of owls.

e. Interspecies competition.

We are also concerned that the Forest Service has failed to assess the effects of interspecies competition on spotted owl viability. Notably, the EA did not assess how spotted owl would be impacted by interspecies competition: it only addressed the impacts to the species because of habitat loss. The BE does not discuss impacts to spotted owls as the result of edge habitat creation and other raptors excluding spotted owls from their existing ranges. The BE also does not address the long-term viability of the spotted owl because of continued habitat destruction.

The FWS has recently recognized the importance of interspecies competition with spotted owl, and the role that barred owls play in spotted owl survival. *A Range Wide Baseline Summary and Evaluation of Data Collected through Section 7 Consultation for the Northern Spotted Owl and its Critical Habitat: 1994-2001*, 11. This document was prepared in response to litigation and dated June 26, 2001, and precedes the Slinky Pre-EA. In it, the FWS states that “the barred owls’ increasing expansion into the range of the spotted owl may eventually pose a serious threat” to spotted owl survival. *Id.* There is no indication in any of the documents associated with the Slinky sale that the Forest Service has considered this information, which is clearly significant. Based on this significant new information, NEPA would require the Forest Service to withdraw the Slinky if a decision is made on any of the action alternatives until a reasoned examination of how barred owls affect spotted owl survival range wide and within the planning area, and how implementation of the Slinky sale will contribute to this situation. 40 C.F.R. § 1502.9(c)(ii).

The US Fish and Wildlife (USFW) 1999 opinion, which sanctioned this sale, is highly controversial. Federal agencies have a responsibility not just to avoid extirpating listed species, but to recover their populations. Thus the directive that “Management activities shall contribute to recovery and conservation of Federally listed threatened or endangered species” (MHLRMP, Four – 68)

Again, no beneficial values to wildlife are included in the effects of the No Action Proposal, and the Pre-EA even has the nerve to point out the negative aspect of the No Action Alternative, saying that one day in the distant future this habitat might not be suitable if trees fall down and change the dynamic structure of the forest. If destroying owl habitat has contributed significantly to the decline

of the endangered northern spotted owl, then not destroying the species' habitat must help maintain and support its existence.

## **B. Management Indicator Species**

NFMA requires the Forest Service to provide animal and plant diversity in the national forests. 16 U.S.C. § 1604(g)(3)(B). USFS regulations implementing this requirement direct the Service to manage forests for viable populations of native vertebrate and desired non-native species. 36 C.F.R. § 219.19. The regulations define viable populations as a population that has “the estimated numbers and distribution of reproductive individuals to insure its continued existence is well distributed in the planning area.” *Id.*

To ensure that viable populations are maintained, the Forest Service regulations also require that the Service identify management indicator species (MIS) and that “[p]opulation trends of the management indicator species will be monitored and relationships to habitat change determined.” 36 C.F.R. § 219.19(a)(6). This monitoring is “essential to verify and, if necessary, modify the forest plan's assumptions about the effects of timber harvesting and other management activities on wildlife... In order to meet the monitoring requirement, planners will need to obtain adequate inventories of wildlife populations and distribution.” Charles F. Wilkinson and H. Michael Anderson, *Land and Resource Planning in the National Forests*, 304 (1987).

The Ninth Circuit has stated that the duty to ensure viable or self-sustaining populations “applies with special force to “sensitive” species.” *Inland Empire Public Lands Council v. United States Forest Serv.*, 88 F.3d 754 (9<sup>th</sup> Cir. 1996) citing *Oregon Natural Resources Council v. Lowe*, 836 F.Supp 727, 733 (D.Or. 1993). NFMA clearly directs the Forest Service to create regulations to “insure research on and (based on continuous monitoring and assessment in the field) evaluation of the effects of each management system to the end that it will not produce substantial and permanent impairment of the productivity of the land.” 16 U.S.C. § 1604(g)(3)(C); *Sierra Club v. Martin*, 168 F.3d 1 (11<sup>th</sup> Cir. 1999).

In light of this direction, NFMA's regulations require inventorying and monitoring on the National Forests under 36 C.F.R. §§ 219.12(d) and (k) as well as 36 C.F.R. §§ 219.19(a)(6), 219.26, and 219.19(a)(2). The regulations state “each Forest Supervisor shall obtain and keep current inventory data appropriate for planning and managing the resources under his or her administrative jurisdiction.” *Id.* § 219.12(d). The regulations further require that “at intervals established in the plan, implementation shall be evaluated on a sample basis to determine how well objectives have been met and how closely management standards and guidelines have been applied.” *Id.* § 219.12(k). To ensure biological diversity, the regulations specifically require that “[i]nventories shall include quantitative data making possible the evaluation of diversity in terms of its prior and present condition.” *Id.* § 219.26.

Although NFMA clearly requires the monitoring of MIS populations, the Forest Service has traditionally relied upon the availability of suitable MIS habitat, rather than population surveys, to meet NFMA's viable populations requirement. *Inland Empire Public Lands Council v. United States Forest Serv.*, 88 F.3d 754 (9<sup>th</sup> Cir. 1996). Recently, however, the Ninth Circuit has revisited its holding in *Inland Empire*, and held that if the Forest Service utilizes a “proxy-on-proxy” approach to meeting the agency's NFMA obligations, any habitat models must be grounded in fact and field



verified. *Idaho Sporting Congress v. Rittenhouse*, 2002 U.S. App. LEXIS 19108 (9<sup>th</sup> Cir. 2002). The court also acknowledged that other courts have expressly disavowed the holding in *Inland Empire*, casting additional doubt on the validity of that case.

Given this developing reinterpretation of the legal requirements attendant to management indicator species, it is question at best whether the multiple mandates in NFMA and its implementing regulations requiring population monitoring and surveying are being met for the Slinky project.

The Mt. Hood National Forest Plan states that management indicator species shall be protected from adverse modification through the curtailment of conflicting activities, or avoiding the area. Some of the management indicator species for the Mt. Hood National Forest include: deer and elk, pileated woodpecker, and pine marten. The Mt. Hood National Forest is required by NFMA to do surveys for these species so that it can monitor the condition of the forest wildlife habitat as a whole. 36 C.F.R. § 219.19(a)(6).

The Mt. Hood National Forest has failed to conduct population studies of management indicator species in the planning area, and has not studied the relationship between habitat change and the viability of the MIS as required by NFMA and the MHMP. The failure to study the effects of the project on management indicator species is in violation of NFMA and is arbitrary, capricious, and not in accordance with the law. 5 U.S.C. § 706; 16 U.S.C § 1604(i); 36 C.F.R. § 219.10(e).

#### 1. Deer and Elk:

Regarding deer and elk, the EA gives inadequate attention to the impacts on these species as a result of the Slinky project and fails to adequately discuss the impacts to elk and deer, and other wildlife, from the proposed logging and road building.

The project area is located within deer and elk summer range. The Minimum Level for Thermal cover is almost below recommended levels in the Peavine Analysis Area. The proposed action would result in the removal of 184 acres of optimal cover, resulting in the cumulative loss of 2% of the existing optimal cover in each of the analysis areas (Pre-EA, 38). The Pre-EA acknowledges that “The loss of this cover could alter the distribution of deer and elk use of the area in the summertime” (Pre-EA, 38).

Road densities are supposed to be kept to a minimum in the elk management area where the Slinky sale is located, but are already near or above recommended levels of road densities. “The project area is located within summer range and encompassed by analysis areas Summer Range 6 (Kink) and 7 (Peavine)” (Pre- EA, 37). “Approximately 1000 feet would be built in the Kink Summer Range analysis area and 1000 feet would be built in the Peavine Summer Range area. (Pre-EA, 38) and “Summer Range 6 and 7 analysis areas currently have an open road density of approximately 2.1 and 2.8 miles per square mile, respectively.” (38) The Recommended level is 2.5 miles per square mile.

The Pre-EA admits that “logging and road-building activities could potentially disturb animals that happened to be in the area at the time of implementation” (Pre-EA, 39) but claims that “disturbance that occurs during the spring/summer/fall would probably only displace animals and would not likely affect their health (Pre-EA, 39). Disturbance does indeed affect animals’ health, as their health can deteriorate due to loss of body weight in traveling farther distances, and by being agitated, as supported by The Oak Grove Watershed Analysis (OGWA), which says that “road closures will play

a critical role in reducing the energetic demands upon the resident elk herds. Options to reduce open road densities especially in the locations identified as important to elk should be fully explored (Pre-EA, 110). The OGWA also points out: “Road densities can have a significant effect on big game habitat effectiveness. Calvin (1995) reported that no elk were observed in any areas on the USFS lands west of Warms Springs boundary where open road densities averaged higher than 2.8 miles per square mile, and most observations were recorded in areas of 2.0 miles per square mile or less...Fielder and O’Conner (1992) also reported that elk within or moving through areas of high open road densities moved longer distances (several miles a day was not uncommon) (OGWA, 110).

The Pre-EA also fails to disclose the effectiveness – or lack thereof – of road closures in the area. Merely stating that winter range will be closed seasonally without disclosing the effectiveness of such closures (especially in view of the additional and better roads) fails the requirements of the NEPA.

Finally, the USFS continues to fail to address the cumulative impacts to deer and elk as a result of several timber projects adjacent to the Slinky planning area. The Mt. Hood National Forest repeatedly offers timber projects that remove deer and elk habitat, but never analyzes the cumulative habitat loss and how it will affect deer and elk. Until the USFS conducts this analysis, the agency violates NEPA’s requirement that the agency assess the cumulative impacts of its actions. 40 C.F.R. § 1508.7.

## 2. Snag-Dependent Species

The Forest Service’s approach to maintaining viable populations of cavity excavators is flawed, and violates NFMA. As stated previously, the Forest Service has an obligation to maintain viable populations by performing surveys of MIS; and at the very least, utilizing suitable habitat models that have been field verified as representative of species use and viability. We also note that the agency has recognized that for many primary cavity excavators (that are also MIS), the Forest Service has an additional ESA obligation to prevent the downward trend of populations that would result in listing on the endangered species list.

The Forest Service is obligated to use the best available science in its management. “Information obtained through monitoring, together with research and other new information, will provide a basis for adaptive management changes to the selected alternative, including changes in the Standard and Guidelines” (Northwest Forest Plan ROD, 57). The research cited in the Oak Grove Watershed Analysis and the EA about snags does not require adequate inventorying and retention of legacy features for species dependent on snag habitat, for nutrient recycling, and many of the other benefits that snags and coarse woody debris have. USFS must conduct detailed legacy inventories of snags and coarse woody debris on a stand level. All large valuable snags and CWD must be retained and additional legacy features created until sufficient numbers and distributions of these essential components of the forest ecosystem are on the landscape. Managing snags by biological potential indexes is not adequate as it will not get one to viable population levels as required by NFMA.

Bats, martens, woodpeckers, bears, and many other species are dependant upon snags and down wood. Snags and down wood also serve several crucial ecosystem functions. Current direction for protecting and providing snags and down wood does not ensure the continued operation of these ecosystem functions or meet the needs of the many species associated with this unique and valuable habitat component. Review and consider all the many values of snags and down wood presented in

Rose, C.L., Marcot, B.G., Mellen, T.K., Ohmann, J.L., Waddell, K.L., Lindely, D.L., and B. Schrieber. 2001. Decaying Wood in Pacific Northwest Forests: Concepts and Tools for Habitat Management, Chapter 24 in *Wildlife-Habitat Relationships in Oregon and Washington* (Johnson, D. H. and T. A. O'Neil. OSU Press. 2001) <http://www.nwhi.org/nhi/whrow/chapter24cwb.pdf> Of particular interest is the section entitled "Lessons learned over the last 15 years." Note the authors call managing snags by biological potential "flawed" and very specifically state that fungi and mistletoe infected trees as should be considered along with snags and down wood in management guidelines. Note that the authors, including a member of the "Gang of Four" and other highly respected members of the community of Pacific Northwest forest researchers frequently call out the 1979 Thomas et al study (frequently used as the defense of the biological potential model) as outdated and inadequate. USFS must take a good look at this and other articles and adapt their management practices to reflect more current research by using the DecAID tool to adequately protect snags.

Information from this paper applicable to the Slinky project is below, with the footnotes removed for readability purposes.

### **Introduction**

Decaying wood has become a major conservation issue in managed forest ecosystems. Of particular interest to wildlife scientists, foresters, and managers are the roles of wood decay in the diversity and distribution of native fauna, and ecosystem processes. Numerous wildlife functions are attributed to decaying wood as a source of food, nutrients, and cover for organisms at numerous trophic levels. Principles of long- term productivity and sustainable forestry include decaying wood as a key feature of productive and resilient ecosystems...

The ecological importance of decaying wood is especially evident in coniferous forests of the Pacific Northwest. In this region, the abundance of large decaying wood is a defining feature of forest ecosystems, and a key factor in ecosystem diversity and productivity... Large accumulations of decaying wood provide wildlife habitat and influence basic ecosystem processes such as soil development and productivity, nutrient immobilization and mineralization, and nitrogen fixation...

Since the publication of Thomas et al. and Brown, new research has indicated that more snags and large down wood are needed to provide for the needs of fish, wildlife, and other ecosystem functions than was previously recommended by forest management guidelines in Washington and Oregon. For example, the density of cavity trees selected and used by cavity-nesters is higher than provided for in current management guidelines...

### **Ecological Functions of Decaying Wood**

Recent significant advancements have defined wildlife species-specific relationships with particular characteristics and components of decaying trees, both standing and fallen, and implications for management...

Hollow trees larger than 20 inches (51 cm) in diameter at breast height (dbh) are the most valuable for denning, shelter, roosting, and hunting by a wide range of animals...

Recent studies have provided valuable insight on wildlife uses of snags (dead trees). Snags provide essential habitat features for many wildlife species. The abundance of cavity-using species is directly related to the presence or absence of suitable cavity trees. Habitat suitability for cavity-users is influenced by the size (diameter and height), abundance, density, distribution, species, and decay characteristics of snags. In addition, the structural condition of surrounding vegetation determines foraging opportunities...

Of the 93 wildlife species associated with snags in forest environments, 21 are associated with hard snags (Stages 1 and 2), 20 with moderately decayed snags (Stage 3), and 6 with soft snags (Stages 4-5) in the five-stage classification system. According to the matrixes, 188 most snag-using wildlife species are associated with snags >14.2 inches (36 cm) diameter at breast height (dbh), and about a third of these species use snags >29.1 inches (74 cm) dbh.

This query of the Habitat Elements matrix [available on the CD that accompanies the book] illustrates the breadth of updated information about wildlife and snag habitat relations. Research results have expanded the number and variety of decaying wood categories over what was previously presented in Thomas and Brown...

Down Woody Material (logs). Down wood affords a diversity of habitat functions for wildlife, including foraging sites, hiding and thermal cover, denning, nesting, travel corridors, and vantage points for predator avoidance. Larger down wood (diameter and length) generally has more potential uses as wildlife habitat. Large diameter logs, especially hollow ones are used by vertebrates for hiding and denning structures...

### **Long term Productivity**

Processes that sustain the long-term productivity of ecosystems have become the centerpiece of new directives in ecosystem management and sustainable forestry. Given the key role of decaying wood in long-term productivity of forest ecosystems in the Pacific Northwest, the topic should remain of keen interest to scientists and managers during the coming decade...

**Nutrient Cycling and Soil Fertility.** Decaying wood has been likened to a savings account for nutrients and organic matter, and has also been described as a short-term sink, but a long-term source of nutrients in forest ecosystems...

Substantial amounts of nitrogen are returned to the soil from coarse wood inputs, yet even where annual rates of wood input are high, 4 to 15 times more nitrogen is returned to the forest floor from foliage than from large wood...

The low nutrient content in wood, small mass of tree boles relative to foliar litterfall, and slow rates of wood decay suggest that large wood plays a minor role in forest nutrition. After large scale disturbance such as fire and blowdown, however, the large nutrient pool stored in woody structures of trees (bole, branches, twigs, roots) becomes available to the regrowing forest. Large down wood may thus be an ample source of nutrients throughout secondary succession...

Recent studies indicate that wood may release nutrients more rapidly than previously thought through a variety of decay mechanisms mediated by means other than microbial decomposers, i.e. fungal sporocarps, mycorrhizae and roots, leaching, fragmentation, and insects ...

Soil is the foundation of the forest ecosystem... On the H. J. Andrews Experimental Forest of western Oregon, 20-30% of the soil volume consists of decaying wood dispersed throughout a matrix of litter and duff. Because wood is a relatively inert substance, it may help to stabilize pools of organic matter in forests by slowing soil processes and buffering against rapid changes in soil chemistry. ...

Numerous studies have demonstrated that losses in soil productivity often are closely linked to losses in soil organic matter.

### **Mass Wasting and Surface Erosion.**

Large wood helps to anchor snowpacks, limit the extent of snow avalanches, and may even stabilize debris flows, depending on the depth of the unstable area... By covering soil surfaces and dissipating energy in flowing and splashing water, logs and other forms of coarse wood significantly reduce erosion. Large trees lying along contours reduce erosion by forming a barrier to creeping and raveling soils, especially on steep terrain. Material deposited on the upslope side of fallen logs absorbs moisture and creates favorable substrates for plants that stabilize soil and reduce runoff.

**Stand Regeneration and Ecosystem Succession.** Decomposing wood serves as a superior seed bed for some plants because of accumulated nutrients and water, accelerated soil development, reduced erosion, and lower competition from mosses and herbs. In the Pacific Northwest, decaying wood influences forest succession by serving as nursery sites for shade-tolerant species such as western hemlock, the climax species in moist Douglas- fir habitat. Wood that covers the forest floor also modifies plant establishment by inhibiting plant growth, and by altering physical, microclimatic, and biological properties of the underlying soil. For example, elevated levels of nitrogen fixation in *Ceanothus velutinus* and red alder have been reported under old logs.

**Streams and Riparian Forests.** Long-term productivity in streams and riparian areas is closely linked to nutrient inputs, to attributes of channel morphology, and to flow dynamics created by decaying wood...

Large wood is the principal factor determining the productivity of aquatic habitats in low- and mid-order forested streams. Large wood stabilizes small streams by dissipating energy, protecting streambanks, regulating the distribution and temporal stability of fast-water erosional areas and slow-water depositional sites, shaping channel morphology by routing sediment and water, and by providing substrate for biological activity. The influence of large wood on energy dissipation in streams influences virtually all aspects of ecological processes in aquatic environments, and is responsible for much of the habitat diversity in stream and riparian ecosystems.

### **Key Ecological Functions of Wildlife Species Associated With Decaying Wood**

Various symbiotic relations can be described for the 96 snag-associated species. Sixteen species are primary cavity excavators and 35 are secondary cavity users; 8 are primary burrow excavators and 11 are secondary burrow users; 5 are primary terrestrial runway excavators and 6 are secondary runway users. Nine snag-associated species create nesting or denning structures and 8 use created structures. Sixteen species might influence vertebrate population dynamics and 22 might influence invertebrate population dynamics. Snag-associated species also contribute to dispersal of other organisms including seeds and fruits (21 snag-associated wildlife species perform this function), invertebrates (8 species), plants (8 species), fungi (2 species), and lichens (1 species). Six snag-associated species can improve soil structure and aeration through digging, 2 species fragment standing wood, and 2 species fragment down wood. One snag-associated species creates snags, and at least 1 can alter vegetation structure and succession through herbivory...

Both snag- and down wood-associated wildlife more or less equally participate in dispersal of seeds and fruits (although the particular species they disperse may differ); however, snag-associated wildlife play a greater role in dispersal of invertebrates and plants, and down wood-associated wildlife play a greater role in dispersal of fungi and lichens. Down wood-associated species might contribute more to improving soil structure and aeration through digging, and to fragmenting wood. This is one example of the far greater differentiating power afforded by a well-constructed set of matrixes than was previously available in Thomas and Brown...

**Depletion of Large Wood.** The loss of large wood structures has numerous potential impacts on ecological functions of forests, although available information is inadequate for a definitive assessment. The lack of large logs on steep slopes can decrease water percolation into soil, impair slope stability, accelerate soil erosion and sediment input to streams, and increase nutrient losses in litter. Some data support a linkage between intensive management (especially depletion of decaying wood) and reduced forest biomass productivity, particularly on less productive sites. Lower productivity is attributed to nutrient losses from managed forests, reduced nutrient availability in older stands, and decreased nutrient storage, particularly in the soil. Depletion of soil organic matter has been cited as a primary factor contributing to declining forest productivity and biodiversity in the Pacific Northwest and elsewhere.

### **Riparian Forests**

Far-reaching effects of the absence of large wood structures in streams include: 1) simplification of channel morphology, 2) increased bank erosion, 3) increased sediment export and decreased nutrient retention, 4) loss of habitats associated with diversity in cover, hydrologic patterns, and sediment retention. In coastal environments and estuaries, the loss of large wood may disrupt trophic webs and alter coastal sediment dynamics.

### **Lessons Learned During the Last Fifteen Years**

Several major lessons have been learned in the period 1979-1999 that have tested critical assumptions of these earlier management advisory models:

- Calculations of numbers of snags required by woodpeckers based on assessing their biological potential. (that is, summing numbers of snags used per pair, accounting for unused snags, and extrapolating snag numbers based on population



density) is a flawed technique. Empirical studies are suggesting that snag numbers in areas used and selected by some wildlife species are far higher than those calculated by this technique.

- Setting a goal of 40% of habitat capability for primary excavators, mainly woodpeckers, is likely to be insufficient for maintaining viable populations.
- Numbers and sizes (dbh) of snags used and selected by secondary cavity-nesters often exceed those of primary cavity excavators.
- Clumping of snags and down wood may be a natural pattern, and clumps may be selected by some species, so that providing only even distributions may be insufficient to meet all species needs.
- Other forms of decaying wood, including hollow trees, natural tree cavities, peeling bark, and dead parts of live trees, as well as fungi and mistletoe associated with wood decay, all provide resources for wildlife, and should be considered along with snags and down wood in management guidelines.
- The ecological roles played by wildlife associated with decaying wood extend well beyond those structures per se, and can be significant factors influencing community diversity and ecosystem processes.

We have also learned that managing forests with decay processes should be done as part of a broader management approach to stand development, with attention paid to retaining legacies of large trees and decaying wood from original or prior stands. Further lessons have been learned in the area of technical and operational developments; some of these are discussed below.

...Studies suggest that wood habitat structures function best for wildlife when they are broadly distributed as well as occurring in locally- dense clumps, such as with scattered snag or down wood patches. ...

...A new modeling tool named DecAID is available to assist with this task. DecAID (as in .decayed. or .decay aid.) is a new Decayed Wood Advisory Model being developed to address some of the recent lessons learned. DecAID is based on a thorough review of literature, available research and inventory data, and expert judgment. It broadens the paradigm for wildlife species and habitat assessment by considering the key ecological functions of wildlife (see below) as well as the ecosystem context of wood decay in terms of secondary effects on forest productivity, fire, pest insects, and diseases.

The manager will be able to use DecAID for advice on the following topics by first specifying wildlife habitat, structural stage, and statistical (confidence) level: 1) wildlife species associated with particular sizes and densities of snags and down wood, or, conversely, the sizes and densities required to meet specified wildlife management objectives, at three levels of confidence; 2) the array of key ecological functions of wildlife associated with decaying wood; 3) the recent-historic and current range of natural conditions of snags and fallen trees; 4) advice on fire risk assessment and mitigation; 5) advice on the roles of insects and diseases associated with various amounts of decaying wood; 6) and the influence of the abundance of decaying wood on ecosystem processes and productivity.

## **Management Tools and Opportunities**

The basic theme of these revisions of intensive forestry practices is to retain the higher levels of complexity found in natural forests, and in so doing, to protect processes and structures that retain future options for ecosystem management. ...

Retention of snags provides numerous habitat benefits. However, safety and liability issues associated with snag retention have posed an operational barrier to management objectives for structural retention. Two approaches useful in reducing hazards associated with snags are: 1) to cluster snags in patches rather than wide dispersal, and 2) to create snags from green trees after cutting...

Managers must also consider the temporal dimension to decaying wood, to ensure that sufficient snag and down wood densities are provided through time.

### **Summary of Management Recommendations**

The information presented in this chapter emphasizes several properties of decaying wood in forest ecosystems: (1) each structure formed by decaying wood helps support a different functional web in the ecosystem; (2) no one decaying wood structure supports all functions equally; and (3) all decaying wood habitats together support the widest array of ecological functions and associated wildlife species. The CD-ROM with this book in combination with the DecAid model provides managers with a powerful tool that makes it possible to assess the degree of full functionality of ecosystems as supported by the various decaying wood structures, and which functions are strengthened, diminished, or lost through alternative silvicultural management practices.

Lessons for managers are:

...

**2. Emphasize retention of wood legacies, and secondarily promote restoration where legacies are deficient to meet stated objectives.** The decline of species associated with late-successional forest structures, as well as the prolonged time needed to produce wood legacies, suggests that it is both ecologically and economically advantageous to retain legacy structures across harvest cycles wherever possible, rather than attempt to restore structures that have been depleted. This is especially obvious for slow-growing tree species and very large wood structures. ...

...

### **Operational Considerations**

...

... OSHA revised the federal Logging Standard (29 CFR 1910.266) in 1995, to clarify its intent that danger trees may be avoided, rather than being removed or felled. A danger tree is any standing tree (live or dead) that poses a hazard to workers, from unstable conditions such as deterioration, damage, or lean. The revised rule allows some discretion in determining the hazard area around a danger tree, by ...allowing work to commence within two tree lengths of a marked danger tree, provided that the employer demonstrates that a shorter distance will not create a hazard for an employee..(OSHA Logging Preamble, Section V). Determining a safe working distance requires a case-by-case ...evaluation of various factors such as, but not limited to, the size of the danger tree, how secure it is, its condition, the slope of the work area, and the presence of other employees in the area...



Concerns frequently arise where high public use creates a risk of third party liability. Considerations include the proximity of reserve trees to roads, trails, campgrounds, ski areas, and other recreation areas and public access points. Methods for addressing these concerns include signage and clear delineation of potential hazard areas, fencing and other barriers to discourage public access, snag height reduction and use of setbacks to minimize exposure.

After reading selected passages above, it should be clear that the bottom line is that current management at both the plan and project level does not reflect all this new information about the value of abundant snags and down wood. The agency must avoid any reduction of existing or future large snags and logs (including as part of the Slinky project) until the applicable management plans are rewritten to update the snag retention standards. See also PNW Research Station, "Dead and Dying Trees: Essential for Life in the Forest," Science Findings, Nov. 1999

(<http://www.fs.fed.us/pnw/sciencef/scifi20.pdf>) ("Management implications: Current direction for providing wildlife habitat on public forest lands does not reflect findings from research since 1979; more snags and dead wood structures are required for foraging, denning, nesting, and roosting than previously thought.") See also:

Jennifer M. Weikel and John P. Hayes, Habitat Use By Snag-Associated Species: A Bibliography For Species Occurring In Oregon And Washington, Research Contribution 33 April 2001, <http://www.fsl.orst.edu/cfer/snags/bibliography.pdf>; and DecAID, the Decayed Wood Advisor for Managing Snags, Partially Dead Trees, and Down Wood for Biodiversity in Forests of Washington and Oregon, <http://www.notes.fs.fed.us:81/pnw/DecAID/DecAID.nsf>

Snags should be carefully inventoried by species, size, decay status, quality, and location during project planning, and they should be treated as "special habitats" and given special protection during project planning and implementation (i.e. keep workers out of the vicinity of snags so that OSHA doesn't order them cut). For instance, the May 2001 Wolf Vegetation Management Project on the Wallowa-Whitman National Forest includes a mitigation measure protecting trees from being harvested if they are near hazardous snags >15 inches dbh. The Slinky NEPA documents do not adequately address the need to protect and provide snag habitat nor does it adequately inventory the existing snags to develop a project that protects them. In the response to comments, USFS states that "surveys for snags and coarse wood have been completed and are summarized by stand type and plant association zone" (A-4). However, the figures provided are only estimates and extrapolations by stand type and plant associations gathered from Watershed Analysis completed years ago.

The snag retention requirements for Slinky fail to retain enough snags to provide habitat for viable populations of cavity dependent species. The parley 4 snags per acre figure to be retained, EA, 45, is based on biological potential, which as we have stated, is an outdated method. It is also an average weighted figure, including adjacent late Successional reserves, which does not reflect the number of snags within the actual project area, which is 2.6. Furthermore, the EA clearly states that snags will likely fall over due to windthrow and be removed for safety reasons. Since "There is no way of knowing how many snags may have to be felled for safety reasons," EA, A-4, there is no assurance that even the 2.4 snags per acre will be retained in the harvest units. The agency must avoid any reduction of existing or future large snags and logs (including as part of this project) until the applicable management plans are rewritten to update the snag retention standards. Since snags have a patchy spatial distribution, surveys to determine snag abundance require very large sample sizes relative to other general vegetation surveys. This was not recognized until relatively recently, so most

past surveys conducted to determine natural snag abundance have therefore grossly underestimated the true abundance of snags. This has led USFS ID Teams to underestimate the number of snags necessary to protect species. This new information must be disclosed and documented in an EIS, and it requires a forest plan amendment.

The agency must do away with the caveat that they will protect snags except where they create a safety hazard. This is based on a false choice between snags and safety. The agency can just buffer snags from activities that involve workers, then all ecologically important snags can be protected. If the agency cannot log without felling most of the snags in the area in a landscape without enough late-successional habitat in reserves, then USFS should drop this project. The agency must consider this as an alternative to their proposed “management by caveat.” An example of this was the Umpqua National Forest, Cottage Grove Ranger District’s 2001 decision to burn a picnic table near Moon Falls in order to avoid placing the public in a hazardous situation with respect to a nearby snag. Similarly, the agency here should save the snags by avoiding the activity in the hazard zone around the snags.

The Slinky EA must at least disclose how many large snags will be protected vs. felled for safety under the preferred alternative. If the USFS cannot accomplish this, as stated in the response to comments, then the public cannot access the impact of this project and the USFS will not be using informed decision-making.

### **C. Fish Species**

The USFS should have addressed the cumulative impact on fish as a result of the myriad projects ongoing in the watershed. Despite this lack of analysis on fish in the planning area, NFMA requires that the USFS provide for species diversity, and NEPA requires the USFS to consider the impact of its activities on all aspects of the environment. 36 C.F.R. § 219.26; 40 C.F.R. § 1508.25. Until this analysis has occurred, the Slinky EA is incomplete.

Given the poor condition of fish habitat and population numbers, the USFS should conduct an EIS to determine the full range of impacts to already stressed populations. Indeed, the Clean Water Act indicates that when one of the narrative standards under which a stream is categorized is no longer being met, there is a violation of the Act. 33 U.S.C. § 1313(a)(1). Oregon law states that streams of the type and class, such as those represented in the Slinky planning area, that no longer maintain the fish stocks once common to those streams are in violation of the Act. OR. ADMIN. R. 340-041-0026, 340-041-0120 (2000).

Indeed, the EA acknowledges that the project will further damage aquatic resources on which fish depend. The Clean Water Act and Oregon law indicate that the agency is precluded from degrading the habitat of organisms that depend on aquatic habitat. OR. ADMIN. R. 340-041-0027 (2000) (“Waters of the state shall be of sufficient quality to support aquatic species without detrimental changes in the resident biological communities”); 33 U.S.C. § 1311(b)(1)(C) (1994); 40 C.F.R. § 131.10(h)(1) (1998). Therefore, the USFS should withdraw this project until it can ensure that no such impairment will occur.

Because the proposed project will not contribute to the recovery of this watershed, and because the USFS is perpetuating the degradation of the area through the Slinky project, the agency is contributing to an ongoing violation of the Clean Water Act.

#### **D. Migratory Birds:**

According to the EA, the Slinky timber sale would reduce habitat for migratory birds. “The harvesting of old 184 acres of late-successional habitat would reduce the amount of habitat for some migratory bird species using the area; particularly those that require mature habitats and snags” (Pre-EA, 49). Some of the species listed are: Vaux’s swift, brown creeper, red crossbill, pileated woodpecker, varied thrush, hermit warbler, Hammonds fly catcher, Wilson’s warbler, and winter wren. The EA, however, goes on to say that there would be “abundant potential habitat for these migratory species in protected lands on the Forest including wilderness areas, riparian reserves and late-successional reserves. It’s important to remember, however, that “potential” does not mean real. The EA does not address how much actual habitat is present in each of those designations to support this statement. In the Oak Grove Watershed, as of 1996, only 53% of the vegetated acres within the Late Successional Reserve were in seral condition (OGWA, 45). For the Upper Clackamas, only 55% of the watershed’s late seral habitat is in the LSR. Furthermore, the EA does not indicate the level of fragmentation of the riparian reserves. And if this habitat was so abundant so as to be satisfactory, then why is the northern spotted owl on its way toward extinction?

#### **E. Other Species**

##### 1. Pacific Fisher

Similar to the lack of discussion regarding direct and indirect impacts to marten, the Forest Service failed to assess how the Slinky project will affect Pacific fisher. The EA does not indicate how the Forest Service will remain consistent with NFMA, which requires the agency to maintain well-distributed, viable populations across the landscape. 36 C.F.R. § 219.19(1).

##### 2. Wild Cats & Bears

The preliminary EA does not adequately assess the impacts to big game species in the area, or even acknowledge they exist. In Units 8 and 9 of the Slinky planning area, there are several cedars with claw-marks, and fresh bobcat tracks have been found in the area. Analysis needs to be done on the effects of this timber sale on these species.

#### **F. Mycorrhizae**

The Slinky EA did not recognize the importance of mycorrhizal fungi on forest growth and productivity, and failed to discuss within the EA how mycorrhizae will be impacted by the proposed timber project. In fact, this resource’s important function in forest ecology was completely overlooked in the EA.

The EA failed to address how past logging has affected mycorrhizae in areas within the analysis area that have been logged. Scientific evidence suggests that mycorrhizae and other soil organisms and processes are extremely important and are easily destroyed by ground-based logging. *Fungi and Insects; Attachment 12, Soils and Logging in Eastern Oregon*. Without a discussion of the impacts to soil mycorrhizae, the appellants and the decision maker are precluded from making an informed decision regarding the proposed project, and the USFS cannot assert that there will be no permanent

impairment of the soil. 30 C.F.R. §§ 219.27(a)(1), 219.14(a)(2) (prohibiting activities unless technology is available to prevent impairment of soil or water resources).

## **G. Noxious Weeds**

The Slinky EA has acknowledged that noxious weeds are a problem, and proposes mitigation measures such as washing all heavy equipment before it comes into the planning area. However, the EA does not cite any specific evidence to support its statement that “With the implementation of the design criteria that are incorporated into the project would reduce the risk of noxious weed introduction and establishment,” EA, 63. While the *Guide* to Noxious Weed Prevention Practices (USDA 2001a) is cited, the EA includes no discussion of whether the proposed mitigation have proven to be successful in contexts similar to Slinky, what the success rate of each of the mitigation measures is, or what the risks are of each of these measures failing. Nor does it include a discussion of how the USFS would monitor success of these measures during implementation and in the aftermath of the project. Since “There would be the potential for the introduction or spread of noxious weed species to the project area due to ground disturbance resulting from logging operations and site preparation” in the alternatives, EA,63.

## **V. The Slinky EA Inadequately Analyzes The Impact To Soil Resources**

Healthy soil is the foundation of a healthy forest ecosystem (Coleman, et al. 1992; Klopatek, et al. 1993), and thus we are concerned that the Forest Service has not analyzed this factor sufficiently in relation to soil’s ecological importance nor in relation to the standards proscribed by law. Forest laws, particularly the MHMP and NWFP, recognize the importance of soil and create very specific duties to mitigate impacts to this precious resource. The Forest Service has partially succeeded in conforming to one of these specific duties, analyzing the detrimental effects as below 15% in parts of the activity area (EA, 52). However, you have not analyzed macropore space (MHLRMP, Four-49), and cumulative effects are not analyzed to determine the true effect of this logging, particularly in light of the number of sales nearby (BE, unpaginated). Finally, there is no analysis of rut depth or effective ground cover (MHLRMP, Four-49). We are concerned that the Forest Service is only maintaining the minimal, easy-to-gauge 15% analysis and not completing the full analysis needed to analyze the true effects on soils.

There are specific problems with the EA’s total lack of information on organic soil components. These organisms perform critical processes and functions. Soil decomposers (bacteria, fungi and possibly certain arthropods) are responsible for nutrient retention in soil. If nutrients are not retained within an ecosystem, future productivity of the ecosystem will be reduced. (Hendrix et al, 1986; Klopatek, et al. 1993). MHLRMP recognized this key function and commands four specific duties for the preservation of organic soil components. MHLRMP, Four-50. There is no analysis whatsoever of the effects of the proposed action on this critical ecosystem factor, which if not remedied, threatens to cause tremendous violations of law. Indeed, the full spectrum of failures to comply with the relevant management regime demonstrates a violation of NFMA’s command that if Forest Plan standards cannot be met, then the proposed project should not take place. 16 U.S.C § 1604(i); 36 C.F.R. § 219.10(e); *Inland Empire Public Lands Council v. U.S. Forest Serv.*, 88 F.3d. 754 (9th Cir. 1996); *Neighbors of Cuddy Mountain v. U.S. Forest Serv.*, 137 F.3d 1372, 1377 (9th Cir. 1998).

## **VI. The Slinky EA Inadequately Analyzes Visual Quality Objectives**

We are concerned that the Slinky EA does not adequately consider the Visual Quality Objectives (VQO) required by the NWFP and the MHLRMP. The EA explicitly suggests non-compliance: “*With minor exceptions*, the current viewshed...meets the cumulative VQO” (emphasis added); “the current condition...[has] elements that prevent the area from meeting the VQO.” EA, 54. There are two types of VQO management at issue in the Slinky sale: modification and partial retention. MHLRMP, Four-108-110. The implied non-compliance with these two VQO standards is more severe than the USFS EA would explicitly suggest.

The problem with the plan in the EA for the modification VQO is that it would harvest more trees to meet the VQO. The Mt. Hood Management Plan guides a wise agency to “blend with the *natural landscape* character when VQO’s of modification are prescribed (emphasis added).” MHLRMP, Four-113. Bark is concerned that the Forest Service intends to blend with the *clear-cut, monoculture landscape* instead of the natural landscape: “softening of visual contrast as young trees...blend with the adjacent young trees.” EA, 55. Once this critical distinction is made, statements such as “would soften the straight lines and square corners of the existing checkerboard pattern,” EA, 55, make sense as attempts to cut the whole area in the name of “softening visual contrast.” This kind of “improvement” is not in line with even the modification VQO standards, and inconsistent with the Service’s discretion under NFMA, NWFP, and the Mt. Hood Plan.

Where higher standards are prescribed in the Partial Retention VQO areas of Slinky, the violations of sound forest principles increase. The EA is confusing because it suggests that the “analysis is in two parts” (EA, 54): the first from close up, the second from far away. The “analysis” created by the Mt. Hood Plan, however, is actually in three parts: foreground, middleground, and background view distances. More confusing still is that the EA itself does not even proceed through “two parts.” It analyzes this sale at 1.5 miles, from one spot on Road 57. We would suggest a fuller analysis of the impact of this sale on the aesthetic qualities of Mt. Hood National Forest.

There is no account for natural diversity of species in the EA, as they affect viewsheds. MHLRMP, Four-114; Pre-EA, 53-55. The Mt. Hood Plan declares the USFS commitment to considering the silvicultural uses of Western Hemlock in its visual resource planning MHLRMP, Two-24. On a site-specific scale however, the EA does not consider Western Hemlock. We suggest future planning to see if the USFS could fulfill its Hemlock-study principles and conform to its natural diversity requirements at the same time. We suggest at minimum *some* consideration of how the Forest Service expects its proposed action to meet this and other mentioned instances of non-compliance with the guidelines for VQO management.

## **VII. Benefits To Public**

Finally, other federal guidance explains the types of factors that should be considered in any cost-benefit analysis undertaken for a federal project. The Office of Management and Budget has stated that cost-benefit analyses

should include comprehensive estimates of the expected benefits and costs to *society* based on established definitions and practices for program and policy evaluation. Social net benefits, and not the benefits and costs to the Federal Government, should be the basis for evaluating government programs or policies that have effects on private citizens or other levels of

government. Social benefits and costs can differ from private benefits and costs as measured in the marketplace because of imperfections arising from: (i) *external economies or diseconomies* where actions by one party impose benefits or costs on other groups that are not compensated in the market place; (ii) monopoly power that distorts the relationship between marginal costs and market prices; and (iii) taxes or subsidies.

OFFICE OF MANAGEMENT AND BUDGET, CIRCULAR A-94 § 6 (1992) (emphasis in original). As applied to the management of the timber sale program, this guidance clearly indicates the need not only for analysis of the socioeconomic benefits of unlogged forests in areas where logging is contemplated, but also an analysis of the rate of return that could be achieved if timber sale monies were spent on other projects such as recreation, wildlife, or watershed restoration.

### **VIII. The Slinky Pre-Ea Fails To Use Appropriate Vegetation Manipulation Methods.**

NFMA requires that “management prescriptions that involve vegetative manipulation of tree cover for any purpose shall: Be best suited to the multiple-use goals established for the areas with potential environmental, biological, cultural resource, aesthetic, engineering, and economic impacts, as stated in the regional guides and forest plans being considered in this determination.” 36 C.F.R. § 219.27(b)(1). The Slinky Timber Sale EA violates NFMA since the logging and associated impacts continue to cause soil erosion, soil compaction, loss of mycorrhizae, and adverse impacts to water quality. Consequently, logging techniques that cause the least amount of soil disturbance should have been used; instead, the Forest Service proposes to utilize highly destructive ground-based mechanisms.

The high recreational value of the planning area should have led the Forest Service to plan the proposed project using the least damaging logging techniques available. Accordingly, if the area is logged, there is no reasonable basis for the agency not to require that skyline systems or helicopters harvest a high percentage of the proposed units, especially on steep slopes, rather than the minimal acreage currently proposed for these methods.

### **IX. The Slinky EA inappropriately bases the logging techniques and choice of alternatives primarily on economics.**

The proposed action violates NFMA’s requirement that a logging system be selected for reasons beyond economics. There is no justification other than economic considerations for using ground based logging systems and further management given the extensive past and future cutting that has occurred in the planning area. 36 C.F.R. § 219.27(b)(3). The decision to implement an action alternative that provides the greatest revenue but proposes the greatest environmental harm is further unfounded since the county that would receive a portion of the revenue from the project no longer bases its economic livelihood solely on timber production.

## **CONCLUSION**

The Slinky Timber Sale analysis area provides important aquatic and terrestrial habitat for a multitude of species. However, the proposed action and adjacent past and present projects would log

significant sections of the valuable remaining forest habitat in a landscape that has been highly fragmented by the pursuit of old growth timber at the cost of multiple use values such as wildlife and recreation. While many opportunities for thinning of second growth forest exist, the Mt. Hood National Forest continues to focus on logging late successional and old growth forest.

Although it has spent significant amounts of time, energy, and money on logging, the Forest Service has spent little energy trying to evaluate the existing state of forest-dependent species in light of decades of forest liquidation. Information about non-game sensitive and listed wildlife species is seriously lacking. Habitat conditions strongly indicate that the Forest is not providing for viable populations of species affected by high road densities and the near-total loss of interior forest habitat in almost all sub-basins. Water quality information is lacking, but what information does exist indicates that serious problems exist. Exotic weeds are spreading throughout the forest and decreasing wildlife habitat value, which is further exacerbated by logging.

In light of these existing conditions, the proposed project will have significant cumulative impacts when viewed in conjunction with other past, present and future timber project. The poor condition of areas of the forest is aggravated by non-federal activities on adjacent lands.

The Forest Service should prepare an EIS analyzing Slinky and proposed adjacent timber projects and other federal and non-federal projects. The MHNF should also conduct thorough surveys of MIS, listed, and sensitive species on a forest-wide basis. Anything short of this ignores the multiple use objectives of NFMA, and the ESA's and NEPA's requirement of high quality science, leaving the Forest Service with little basis for concluding the Forest is meeting the requirements of the National Environmental Policy Act, Clean Water Act, Endangered Species Act, and the National Forest Management Act.

Attachments:

Scientists Old-Growth Statement

Making Endangered Species Act Determinations of Effect for Individual or Grouped Actions  
at the Watershed Scale