

Response to Substantive Comments

The proposed action for the Slinky Timber Sale was made available for public comment, (36 CFR 215, 5/13/03). Letters, post cards and e-mails were received during the 30-day comment period, which ended on July 30, 2003.

The responsible official has considered comments received and has developed the Slinky Environmental Assessment in response to those comments. Some commenters refer to a Pre-Environmental Assessment or a Pre-EA or SPA. They are referring to the proposed action that was made available along with preliminary analysis of effects and other documents such as biological evaluations. These documents were not an Environmental Assessment or a Pre-Environmental Assessment. They were preliminary documents made available to provide the public with more information about the proposed action. The Environmental Assessment was not prepared until after the comment period ended and substantive comments were considered.

This appendix responds to the substantive comments. Many letters, e-mails and post cards contained identical comments, which will be combined for the purpose of response. Substantive comments are comments that are within the scope of the proposed action, are specific to the proposed action, have a direct relationship to the proposed action and include supporting reasons for the Responsible Official to consider (36 CFR 215.2).

The full text of letters, e-mails and post cards are in the analysis file; the following is a summary. The agency responses are in italics and highlighted. In the italicized responses, page numbers refer to the Slinky Environmental Assessment unless otherwise specified.

A letter containing the following comments was received from Oregon Natural Resources Council (ONRC).

1. This project illegally clearcuts late-seral stands in designated **Northern Spotted Owl Critical Habitat**.

1a. Within **Critical Habitat Units**, agencies have the responsibility to promote recovery of ESA listed species, not just avoid jeopardy of Northern spotted owl populations. While logging suitable habitat for an ESA listed species in decline is alarming, destroying suitable habitat in CHU's is also illegal. No agency can successfully argue that clearcutting owl habitat contributes to recovery. Plain and simple, this project results in destruction and adverse modification of suitable habitat within a CHU. *In the EA, the effects to northern spotted owl critical habitat are discussed (p. 37). This action is consistent with the Northwest Forest Plan; the agency's contribution toward northern spotted owl recovery. It 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 or result in the destruction or adverse modification of spotted owl critical habitat.*

1b. Slinky units 1 and 2 occur within the Roaring River/Upper Clackamas **General Area of Concern**, which is recognized as "an important connectivity area." Despite this, the BE states that the loss of the habitat found within units 1 and 2 is acceptable because "It is assumed that enough areas occur within the interim connectivity design cells that connectivity objectives should be met within this General Area of Concern (LSR Assessment, 1998). But the reserves

are not fully functional. 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. *In the EA, interim connectivity is discussed (p. 38). The interim connectivity design cells are not within late-successional reserves but are matrix lands that are providing for connectivity while the reserves are restored. The LSR Assessment, General Areas of Concern (USDA 1998b, p. 3-80) states “Areas in the Oak Grove Watershed were identified as important connectivity areas to provide some habitat redundancy... There is enough area in the interim connectivity design cells that connectivity objectives should be met.” Units 1 and 2 are located outside of the interim connectivity design cells.*

2. **Clearcutting older forests** when supply can be obtained with less controversy from plantations. Job opportunities for local and mobile workforces can be met better by thinning in plantations. Despite the conviction of the USFS that the purpose and need of the Slinky project is in large part to “meet the social needs of local and regional economies now and into the future” (SPA, page 2), this project is unlikely to meet that need. Since old-growth logging is highly controversial, a reliable supply of wood fiber will never come from these stands. Conservation groups and individuals will use many tools to prevent old growth from being felled, including appeals and litigation. We are supported by a majority of the American people, who do not support logging old growth forests for wood products. *In the EA, the purpose and need has been clarified (p. 2). One of the objectives of the Northwest Forest Plan is to “...maintain a sustainable supply of timber and other forest products that will help maintain the stability of local and regional economies on a predictable and long- term basis.” (USDA, USDI 1994b, p. A-1) The Slinky project contributes timber and forest products consistent with that goal. Thinning of second-growth stands is a high priority and is being pursued in a separate analysis. The EA identifies two planned thinning sales in this area (p. 23). The Northwest Forest Plan anticipated that some older forest stands would need to be harvested to meet the Probable Sale Quantity (PSQ).*

3. Logging to reduce **fragmentation** seems to be one of the major justifications of this project. Preeminent scientists, including authors of the Northwest Forest Plan, (i.e. Jerry Franklin and Bruce Marcot) support protection of older forests. The SPA recognizes the importance of isolated remnant old-growth patches, but suggests that the green tree retention requirements will suffice for fungi, bryophytes, arthropods, vascular plants, small mammals, amphibians, and birds (pg. 27). Nearly all of the species listed require microclimates supported by a canopy far more closed than will be left following logging. The leave trees will provide some habitat for species associated with snags and woody debris into the future, but will not support many of the species listed. Dwarf mistletoe and *Phellinus* are natural disturbance vectors that diversify, not weaken, forest structure. Just because a stand is not growing as fast as it once was and has some natural disturbance vectors does not mean that this stand has no value or that it should be logged. *In the EA, the effects to fragmentation and older forest are discussed (p. 30). The condition of the landscape and the health of stands is not a major justification for harvest but is one means to prioritize harvest opportunities (p. 5). Some scientists do advocate for the elimination of old-growth harvest. The Northwest Forest Plan recognized the nature of the compromise that was made between preservation and meeting social needs (USDA, USDI 1994b, p. 2).*

4. **Purpose of Matrix lands** - C1 timber emphasis designation is less restrictive than Matrix designation and is therefore irrelevant. Production of wood products is allowed on Matrix lands, but Matrix lands must meet other objectives as well, such as “retention of old-growth fragments in watersheds where little remains.” (NWFP ROD, C-44) Even the Mt. Hood Forest Plan calls

for protection of ecological values “Management Activities *shall* (emphasis added) preserve and enhance the diversity of plant and animal communities, including endemic and desirable naturalized plant and animal species.” (LRMP, Forest Diversity A, Four-67). *In the EA, the objectives of matrix and timber emphasis allocations are discussed (p. 3). The Northwest Forest Plan standards and guidelines apply where they are more restrictive than the Mt. Hood Forest Plan. Matrix does not supplant the C1 Timber Emphasis allocation; it adds certain standards and guidelines. The C1 Timber Emphasis contains some standards and guidelines that are more restrictive than Matrix standards and guidelines such as those for snag retention. The project is consistent with the standards and guidelines for lands in the matrix.*

5. New roads - The impacts of “temporary” road construction are not “temporary.” Even ridgeline roads increase the risk and frequency of events that put sediment in streams, fragment habitat, provide corridors for invasive weeds, increase peak flows, increase fire ignition points, and degrade soil productivity. 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. *The term “temporary road” is commonly used by the Forest Service to describe roads that are built by a timber purchaser, used only for logging operations and are decommissioned when the sale is complete. This is to distinguish them from permanent system roads that are intended to be retained as a long-term part of the Forest’s transportation network. The EA does not claim that the effects of the road go away immediately, in fact temporary roads are likely to be re-used again in the future (p. 68). The EA describes the effects of constructing these roads.*

The LRMP states by the year 2000, **open road densities** should not exceed 3.0 miles per square miles. The latest figures on open road density in the Austin segment of the Upper Clackamas Watershed indicate it is 3.6 miles per square mile. The Slinky BE considers both Austin and Kink creeks in the “at risk” category. Given that the Mt. Hood Forest Plan precludes additional road construction because the status quo already violates LRMP requirements, the Forest Service should refrain from more roadwork in order to comply with NFMA. *The Forest Plan does not contain a standard of 3.0 miles per square mile. The 3.6 miles per square mile figure quoted from the Fish BE is total road density not open road density. The open road density calculations (p. 46-47) use permanent range analysis areas (Summer Range 6 and 7) and not subwatersheds. The comment confuses the analysis of total road density by subwatershed used by fisheries biologists to evaluate watershed condition, and the Deer and Elk analysis of open road density used by wildlife biologists to evaluate harassment. Alternative B includes the construction of temporary roads, which would be decommissioned upon completion of logging.*

6. Cumulative impacts - 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. The ARP model is also inadequate because it does not consider the design of the transportation system or stream channel characteristics or the quality of recovered stands. But even though ARP calculations are likely to understate the potential for adverse effects, ARP indices for the Slinky planning area present a bleak picture. Christner (1982) found that if the Aggregate Recovery Percentage (ARP) is below the 75% threshold, then water quality and fish habitat is at risk. The ARP value for the Kink drainage is already at 73% and is slated to be at 70% following logging of Slinky. *The ARP analysis (p. 22) is not the only analysis of cumulative effects. In the EA, cumulative effects are discussed for many resources that relate to watersheds such as fisheries (p. 17), aquatic wildlife (p. 40), soils (p. 49-53) and fragmentation (p. 30-35). The ARP analysis has been tailored to site-specific*

conditions including the stability of local geological landforms, sensitivity of local fish habitats, local growth rates of trees, presence of permanent openings, actual age of stands and existing and foreseeable future projects (p. 22). The 1982 Christner paper, on the other hand makes recommendations for the Willamette National Forest. The Christner work was used and referenced during the development of the Mt. Hood Forest Plan (Forest Plan FEIS, p. IV-46 and IV-26). The Mt. Hood Forest Plan considered the local situation and the science available at the time (1990), including the recommendations of Christner, and found that 35% was an appropriate threshold of concern for the Slinky area. This corresponds to 65% recovery in the ARP model (USDA 1990b, p. Four-53).

In “Cumulative Effects of Forest Practices in Oregon.” Robert **Beschta** et al. (1995) reviewed nine different methodologies for analyzing cumulative effects, many of which are used on federal lands in the Northwest, and concluded that they were inaccurate and not based on site-specific characteristics. *This document does not contain any significant new information and it did not evaluate the ARP model used for this project. In the EA, hydrologic stability and these papers are discussed (p. 23-24).*

Best Management Practices (**BMPs**) and mitigation should not be relied on as a surrogate for addressing cumulative watershed effects because BMPs are addressed to individual actions and fail to do anything to limit the totality of individual actions within a watershed. *BMPs and mitigation are not relied upon as a replacement for cumulative effects analysis. Cumulative effects analysis can be found throughout the EA.*

7. Snags - Current management at both the plan and project level does not reflect new information about the value of abundant snags and down wood. Current science shows that 4 snags/acre minimum are required for 100% population potential for woodpecker species associated with snag cavities. The snag retention requirements in the SPA fail to retain enough snags to provide habitat for viable populations of cavity dependent species. The agency should protect existing snags by eliminating harvest in areas of hazard. The EA must at least disclose how many large snags will be protected vs. felled for safety under the preferred alternative. USFS must conduct site-specific surveys for snags and coarse wood. *The EA contains a discussion of effects to snags and snag dependent species (p. 41-46). The Slinky EA does use 4 snags per acre as the level of 100% biological potential (p. 45). There is no way of knowing how many snags may have to be felled for safety reasons. Surveys for snags and coarse wood have been completed and are summarized by stand type and plant association zone.*

There does not need to be a choice between snags and safety. The agency can just **buffer snags** from activities that involve workers, then all ecologically important snags can be protected. The agency must consider this as an alternative. *The EA contains a discussion of the consideration of this alternative (p. 12). This alternative in practice would be similar to the no-action alternative.*

A letter containing the following comments was received from BARK.

I. The Slinky Timber Sale Will Not Meet The Stated Purpose And Need Of The Project

A. The Forest Service fails to support it’s contention that the proposed project is necessary for local economies, or will contribute to the health of the **local economy**. The Pre-EA is incomplete because it does not provide an adequate economic analysis of the proposed project. The Pre-EA also lacks analysis that shows that the sale meets social and economic needs of the

local and regional economy. *See response to ONRC comment #2.* Notably, the price for timber has dropped dramatically. In spite of the increased demand due to home building, there is a **glut of timber** on the market; timber sales that are currently being auctioned by the Mt. Hood National Forest are selling below estimated valuation. *The EA contains a discussion of timber markets: recent timber sales similar to Slinky have been bid up to approximately double the minimum bid (p. 65-66).*

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**. These include the economic benefits associated with recreation and other values. *The EA tiers to the Mt. Hood Forest Plan and Northwest Forest Plan Final Environmental Impact Statements, which have analyses of recreation and other values (USDA 1990a, p. IV-122)(USDA, USDI 1994a, p.3&4-278-317).*

C. The Slinky timber sale will not achieve desired future conditions. The Slinky timber sale Pre-EA fails to mention desired future conditions and priorities in the Northwest Forest Plan (NWFP) and Mt. Hood Land and Resources Management Plan (MHLRMP) that call for preserving plant and animal **diversity** as opposed to creating plantation forests. *The EA discusses desired future conditions for diversity (p. 4-5). Diversity standards for matrix areas relate to snags, down woody debris and green tree retention and providing a mix of habitats across the landscape.*

The Pre-EA refers to the area as classified as C1 timber emphasis, with the “primary goal” being timber harvest. The NWFP takes precedence over any less restrictive management directives, and since the NWFP’s **Matrix** designation is more restrictive than the MHLRMP’s C1 designation, C1 is no longer an appropriate management designation. The NWFP’s Matrix designation does allow commercial timber harvest, but another goal of Matrix is to “perform an important role in maintaining biodiversity.” *See response to ONRC comment #4.*

The Pre-EA’s bias against old growth is shown clearly in the Purpose and Need Statement. **Slow growth and tree mortality** 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. *See response to ONRC comment #3.*

II. The Slinky Pre-EA Does Not Adequately Consider The Impacts Of This Project

A. The pre-*ea* fails to adequately consider the **cumulative** environmental impacts of the proposed project, and past, present, and future Forest Service and private activities, including timber sales, livestock grazing, herbicide use, mining projects, off-road vehicle use, and other management activities. *In the EA, cumulative effects are addressed for each resource and the analysis does consider all of the applicable impact activities (p. 22-25).* The Pre-EA admits to having completed/planned the clearcutting of over 1600 acres of old growth in both watersheds over the last 8 years. However, the document fails to highlight that 72% of the projected logging in the Oak Grove Watershed and 50% of the projected logging in the Upper Clackamas Watershed are **scheduled to take place this year**. *The analysis includes foreseeable timber sales (p. 25) but there is no implication that they will all be logged this year. Timber sale contracts are usually never started and completed in one season. Purchasers are allowed 2 to 3 years to complete the work and often get extensions. It is highly unlikely that Slinky would be logged this year while other sales such as Tarzan and Borg have already been partly logged.*

Even if they were logged all in one season, the effects would be similar to that described in the analysis. The analysis shows that the sales would likely be logged by 1996.

1. Cumulative Direct and Indirect Impacts on Watershed Integrity. The Aggregate Recovery Model (ARP) used to determine cumulative effects is faulty and does not provide complete information. First, the graph shows timber sale activity over the next ten years, which is based on an assumption that there will be no new projects in that time period. Pre-EA, 18. This seems highly unlikely. *See response to ONRC comment #6. The analysis shows a trend of continued hydrologic recovery and includes all foreseeable projects (p. 22). The Watershed Analyses contain discussions of projected harvest over time (EA p. 25). The analysis shows a trend of 1% hydrologic recovery each year due to the rapid growth of mid-seral plantations. If future harvest were to occur at the rate projected in the watershed analyses, the resultant affect in ARP figures would be to reduce the 1% annual recovery by approximately 0.2%. In other words, even with future projected harvest the ARP curve would show a steady 0.8% annual increase and a trend toward continual hydrologic recovery (p. 23).*

The Pre-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. *The EA does not project any effects to these stream conditions (p. 17-27), therefore project level monitoring of these benchmarks has not been proposed.*

2. Cumulative, direct and indirect impacts on forest **fragmentation**, and dispersal of late successional species. The Pre-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. *See response to ONRC comment #3.*

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. I urge you to review this document and include its finding in the Pre-EA of Slinky. The Preliminary Slinky EA needs to address the new scientific evidence. Not only do the scientists support this position, but recent polls have shown that 75% of the public back an end to old-growth logging. *The letter contains no new information and the EA contains a discussion of the opinions of scientists (p. 74).*

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. *See response to ONRC comment #2.*

3. Significance cannot be avoided by breaking it down into small components. The impacts from other past and present logging activities will significantly impact numerous resources including water quality, soil health, fish, and wildlife. The Pre-EA notes that there are other activities planned in the Slinky planning area and its watersheds, and that other activities have occurred there in the past. Consequently, there are multiple site-specific significant **cumulative impacts**

of these activities that were not adequately considered in the Slinky Pre-EA or the Mt. Hood Forest Plan. *The project was not broken down into small components; all of the units and all connected projects are included as well as all past, present and foreseeable future projects. The EA describes the cumulative effects (p. 22, 36 & 49).*

4. 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. 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. *All required surveys have been conducted (p. 40 & 58). Surveys for the purpose of determining species ranges and making population estimates are conducted by other agencies including U.S Fish and Wildlife Service, Oregon Department of Fish and Wildlife, and Regional Ecosystem Office.*

C. The Forest Service improperly relies on **mitigation** measures to conclude that there will be no significant impacts of the slinky sale. The foundation of this overly optimistic assessment of impacts is Best Management Practices (BMPs), which are automatically assumed to negate negative impacts. BMPs 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. *The EA does not presume that BMPs will negate all negative impacts (p. 51).*

1. The EA does not contain an adequate discussion of mitigation measures. While the mitigation measures discussed in the Slinky Pre-EA (10) 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. *The action alternatives incorporate design criteria and BMPs as part of the proposal (p. 12-14). The proposed action was designed with BMPs and Standards and Guidelines from the Forest Plan, as amended, which are designed to reduce or minimize effects to resources. The analysis does not indicate any significant impacts that would require further mitigation. The Slinky proposal does not rely on mitigation measures to reach a finding of no significant impact.*

3. The EA must include a detailed **monitoring** and mitigation plan. *The EA addresses monitoring on page 14.*

III. The pre-EA inadequately analyzes the impacts to **aquatic systems**. The Pre-EA completely disassociates incremental impacts with the collective or long-term effects, and states that the action alternatives are “not likely to cause a trend to federal listing or loss of viability.” Pre-EA, 17. Repeated destruction of habitat over time has caused listings the first place. 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 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. *The EA includes an analysis of the effects to aquatic resources (p. 15-27). No significant effects have been identified either individually or cumulatively.*

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

1. Direct impacts from **sediment** on the planning area - The Pre-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 chance that measurable amounts of fine sediment would enter any stream within the project area as a direct result of logging activity is negligible (p. 18).*

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. 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 EA does include all past, present and reasonably foreseeable actions (p. 22-23).*

3. The Slinky EA is inadequate because it does not include a **monitoring** requirement or a mechanism to deal with water quality violations. The Pre-EA does not state whether water quality impacts will be monitored to ensure that water quality standards are met, when this evaluation will occur, or what the USFS intends to do if the effects on aquatic systems are greater than anticipated. *The EA addresses monitoring on page 14.*

4. The Slinky pre-ear is flawed because it does not include adequate **mitigation** measures for aquatic systems. Although the Pre-EA includes a number of mitigation measures for the Slinky Timber Sale, it does not indicate whether these measures are required in the timber project contract, how it intends to ensure compliance with the measures if they are in fact required, or whether these measures will be effective. *See response to comment II C1 above.*

5. The reliance on **BMPs** as sufficient mitigation for sediment impacts to aquatic systems is flawed. While the use of BMPs is to be encouraged in timber project, we note that the use of these measures are not themselves sufficient to ensure compliance with the Clean Water Act (CWA). *See response to comment II C above.*

6. The pre-EA is flawed because it requires the construction of unnecessary roads that will degrade water quality. The Pre-EA calls for building 0.4 mile 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. 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. 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, 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. The Pre-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. *See response to ONRC comment #5.*

B. AQUATIC CONSERVATION STRATEGY

The **ARP** Model is Faulty. Aggregated Recovery Percentage only measures the potential for damage from a rain-on-snow event, even though many factors contribute to watershed impacts. 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. But even though ARP calculations are likely to understate the potential for adverse effects, ARP indices for the Slinky planning area present a bleak picture. Christner (1992) found that if the Aggregate Recovery Percentage (ARP) is below the 75% threshold, then water quality and fish habitat is at risk. The ARP value is well below what respected scientists and the Forest Plan consider acceptable. 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. *See response to ONRC comment #6.*

IV. The Slinky Pre-EA Inadequately Analyzes The Impact To Species

A. Threatened, Endangered, and Sensitive Species

1. **Fish** - The Slinky EA acknowledges that habitat of the species will be affected, but doesn't provide adequate analysis to support the claim that populations therefore won't be harmed. *The EA indicates that there would be no effect to listed species (p. 19-21).*

2. **Northern Spotted Owls** - 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.

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 recontour the Slinky sale to remove any possibility of adverse impact to this species. This may be accomplished by changing harvest prescriptions to thinning, removing any old growth component, and dropping all units that will degrade owl habitat. *The EA analyses impacts to spotted owls (p. 36-38). The analysis conforms to protocol established by U.S. Fish and Wildlife Service. See response to ONRC comment 1a. The option of altering the sale to eliminate all impacts to spotted owls would be similar to the no-action alternative.*

b. Lack of assessment of impacts to and protection of **Critical Habitat Unit OR 10** precludes implementation of the Slinky timber sale. *See response to ONRC comment #1a.*

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. *See response to ONRC comment #1b.*

d. The USFS failed to design Slinky – or any other of the proximate sales – to reverse the downward spotted **owl population trend**. *The EA indicates that the project will not likely jeopardize the continued existence of spotted owls (p. 37).*

e. We are also concerned that the Forest Service has failed to assess the effects of **interspecies competition** on spotted owl viability. *Interspecies competition is one of the reasons for the evaluation of habitat fragmentation, addressed in the EA on page 36.*

B. MANAGEMENT INDICATOR SPECIES

1. Deer and Elk – Current **road densities** are approximately 2.1 and 2.8 miles per square mile. The Recommended level is level is 2.5 miles per square mile. 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. The Pre-EA also fails to disclose the effectiveness – or lack thereof – of road closures in the area. Finally, the USFS continues to fail to address the cumulative impacts to deer and elk as a result of several timber project adjacent to the Slinky planning area. *The EA includes a discussion of the effects to deer and elk and the effectiveness of road closures (p. 46-47). Adjacent projects are included in the cumulative effects analysis. The temporary roads will only be open during logging and then closed by obliteration and berming which has been found to be an effective technique.*

2. Snag-Dependent Species - The USFS also failed to respond to the issue that logging will remove **snags** and down woody debris from a planning area that is already deficient in these features. Moreover, recent scientific findings by Bull et al. for the Pacific Northwest Research Station indicate that the Service's standards for snag retention are insufficient to provide adequate habitat for species that depend on snags. *See response to ONRC comment #7.*

3. 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 Wild Cats & Bears**. *Pine marten effects are discussed in the EA (p. 48). Pacific fisher, wild cats and bears are not management indicator species in this area (Forest Plan pp. Four-21 and 22).*

B. **Fish** - The USFS should have addressed the cumulative impact on fish as a result of the myriad of projects ongoing in the watershed. Indeed, the Pre-EA acknowledges that the project will further damage aquatic resources on which fish depend. 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. *The EA addresses cumulative effects and indicates that there would be no effect to listed species and no violation of the Clean Water Act (p. 19, 26 & 27).*

C. **Migratory Birds** - According to the Pre-EA, the Slinky timber sale would reduce habitat for migratory birds. *The EA includes a discussion of effects to migratory birds (p. 48). There is abundant habitat available for migratory birds in protected lands such as wilderness areas, riparian reserves and late-successional reserves.*

D. **Mycorrhizae** - The Slinky Pre-EA did not recognize the importance of mycorrhizal fungi on forest growth and productivity, and failed to discuss how mycorrhizae will be impacted by the proposed timber project. In fact, this resource's important function in forest ecology was completely overlooked. *The EA describes effects to soils and mycorrhizal fungi (p. 51). The EA is tiered to the Northwest Forest Plan FSEIS, which contains a discussion of soils (p 3&4-108). Standards for soil protection, woody debris retention and green tree retention are designed to provide for the needs of mycorrhizal fungi and other soil organisms.*

E. **Noxious Weeds** - The Slinky Pre-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. Is there any evidence that the proposed mitigation have proved to be successful? If so, what is the success rate of each of the mitigation measures? Do you have any data? What are the risks of these measures failing? How would you monitor success of these measures during implementation of the project? How building more roads and bringing in heavy machinery and other vehicles that carry noxious weed seeds assisting with prevention? *The EA includes a discussion of noxious weeds (p. 62). The requirement to wash equipment is one of several nation-wide requirements developed after years of investigation to find ways to contain the spread of certain weeds. Heavy machinery and other vehicles that can carry noxious weed seeds would be washed to remove seeds.*

V. The slinky pre-EA inadequately analyzes the impact to **soil** resources. 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. 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). There is also no reference in the chart to the effect of burning the slash piles. 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 Pre-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. *The EA describes effects to soils (p. 49). The EA is tiered to the Northwest Forest Plan FSEIS, which contains a discussion of soils (p 3&4-108). Standards for soil protection, woody debris retention and green tree retention are designed to protect soils.*

VI. The slinky pre-EA inadequately analyzes **visual quality objectives**. We are concerned that the proposed Slinky sale does not adequately consider the Visual Quality Objectives (VQO) required by the NWFP and the MHLRMP. The implied non-compliance with these two VQO standards is more severe than the USFS Pre-EA would explicitly suggest. 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." Pre-EA, 46. Once this critical distinction is made, statements such as "would soften the straight lines and square corners of the existing checkerboard pattern" (Pre-EA, 46) 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. *The EA contains a discussion of effects to scenery (p. 53-57).*

VII. **Size of Created Opening** Exceeds 60 Acres - Forest openings created by the application of even-age harvest methods should not exceed 60 acres in the Westside-Cascade Douglas-fir forest type, MHLRMP, Four 89, and one issue of particular concern to us is that Unit 51 is separated from Unit 15 by only a small dirt road, and conceivably these units combined could exceed 60 acres. What is the acreage of these two units? Additionally, what is the age of units surrounding 15 and 151? Are they 4.5 ft high? Please confirm why you do not consider this area a “Created opening.” MHLRMP, B. Reforestation, Four – 90. *The EA indicates that none of the Slinky units (or unit groups) would be over 60 acres even when combined with adjacent young plantations (p. 30). The size of units 15 and 151 combined is 17 acres and there are no adjacent plantations that have average heights less than 4.5 feet.*

VIII. **Benefits To Public** - There is no 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. *See response to I. B above.*

IX. The Slinky pre-EA has failed to state whether all practicable means to avoid or minimize environmental harm have been adopted. NEPA’s regulations explicitly require that agencies to state in a NEPA decision whether all practicable means to **avoid or minimize** environmental harm have been adopted and if not why not. 40 C.F.R. § 1505.2(2). The Slinky Pre-EA has made no such finding. *40 C.F.R. § 1505.2 relates to the contents of Records of Decision for Environmental Impact Statements and is not applicable to this document.*

A & B. The Pre-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. There is no justification other than economic considerations for using ground based logging systems. *The EA indicates that skyline or helicopter logging systems are being proposed on slopes greater than 20% (p. 14). Ground based logging is proposed on 40% of the unit acres (p. 52-53).*

OTHER SUBSTANTIVE COMMENTS - 50 letters and e-mails and approximately 200 post cards were received. Many stated a preference for the no-action alternative or gave opinions that logging is not appropriate on public lands. Many comments are not substantive because they are not within the scope of the proposed action, or are not specific to the proposed action, or have no direct relationship to the proposed action or they include no supporting reasons for the Responsible Official to consider (36 CFR 215.2).

There should be an alternative that includes **no road building**. *Three alternatives are examined that include no road building (p. 8-9).*

There should be an alternative that includes **no clear cutting**. *The action alternatives evaluate harvest with a range of leave trees from 10 to 30 trees per acre and the no-action alternative evaluates no harvest (p. 8-9).*

The project does not meet standards for Tier 1 **Key Watersheds**. *The Slinky harvest units are not in a Tier 1 Key Watershed; they are 3000 feet or more away from the boundary (p. 11 & 16).*

I camp near Slinky units 8 and 9. Harvest will ruin the **recreational** opportunity. *The EA describes the effects to dispersed recreation (p. 71).*

Logging will remove jobs from the **special forest products** industry. *The EA contains an analysis of effects to special forest products (p. 70).*