

Decision Memo

Snow Creek Salvage

USDA Forest Service
Hood Canal Ranger District, Olympic National Forest
Clallam and Jefferson Counties, WA
T29N, R2W, Section 31
T28N, R2W, Sections 4 & 6
T28N, R3W, Section 1

Background

Storms of 2006 and 2007 produced winds that caused blowdown in the Snow/Salmon Creek watershed. About 230 acres of forest experienced windthrow ranging from medium (33-66% of trees down) to high ($\geq 66\%$ of trees down) in intensity, based on visual estimates, across all land allocations in the watershed. The watershed's Late Successional Reserve (LSR) has 47 acres of blowdown and the Adaptive Management Area (AMA) has 182 acres. Of the total approximately 113 acres have medium intensity levels and about 116 acres have high intensity levels of blowdown. Areas with low intensity blowdown were not inventoried.

As mentioned in Olympic AMA Guide, I instructed the project's interdisciplinary team (IDT) to develop strategies for salvage which focus on a mix of ecological and economic benefits. With this in mind the purpose and need for this project is to: 1) capture timber value for economic benefit, and 2) initiate a learning process for conducting salvage operations while meeting Forest Plan objectives.

The Northwest Forest Plan designated land allocations within the project area are AMA and Riparian Reserve (RR). The objective of the AMA is to encourage the development and testing of technical and social approaches to achieving desired ecological, economic and other social objectives. Riparian Reserves, overlaying other Northwest Forest Plan land allocations, are intended to protect the health of the riparian and aquatic system.

Decision

I have decided to implement the commercial salvage of blowdown timber on approximately 120 acres in the Snow/Salmon Creek watershed. The project includes those areas with medium and high windthrow intensities in the Adaptive Management Area that are 66 feet or more from streams and are currently not in northern spotted owl habitat. Units 1, 2, 3, 7, 8, 9, 11 and 12 have high intensity blowdown, totaling approximately 76 acres. Units 6, 10, 13 and 14 have medium intensity blowdown and are about 44 acres combined. A combination of ground based and cable harvesting systems will be used. To minimize impacts to soils shovel logging (a ground based system) will be used in all units except unit 12. A cable logging system will be used in unit 12. The project units include approximately 13.5 acres of RR. There will be 0.5 miles of temporary road construction, or less, and reconstruction on approximately 0.3 miles of

existing roads. There will be no new permanent road construction for this project. Project mitigations are included in Appendix A.

A shovel logging system uses a tracked log loader to move logs to the landing and to load logs on to trucks. Shovel logging machines generally have longer, wider tracks, high clearance, and heavier track drives than on-road log loaders. In shovel logging operations sawyers buck and de-limb logs while the shovel helps untangle wind-thrown trees and stacks logs next to the trail. They progress through the unit together starting at the landing. As the shovel travels the trail back to the landing it stops, picks up logs from one stack and swings them to the next stack. This continues as they progress back to the landing until the stacks are combined in one large stack at the landing. Where the blowdown lies perpendicular to the trail, shovels can use their 25' reach to grab one end of a log and swing/pull it to the trail, effectively extending their reach by the length of the log. With a 110' trail spacing the majority of the logs can be reached. Any remaining wood will be considered for meeting wildlife coarse wood retention objectives. With a shovel logging system logs will essentially be moved to the landing with no ground contact, other than when stacked. When the shovel travels through the unit it will not carry logs from one location to the next.

This action is categorically excluded from documentation in an environmental impact statement or an environmental assessment as under the Forest Service Handbook Title 1909.15 Chapter 30, Section 31.2(13): "salvage of dead and/or dying trees not to exceed 250 acres, requiring no more than ½ mile of temporary road construction". The categorical exclusion is appropriate in this situation because there are no extraordinary circumstances potentially having effects which may significantly affect the environment, and it does not, individually or cumulatively, have a significant effect (40 CFR 1508.27) on the quality of the human environment. I considered effects to threatened or endangered and sensitive species, critical habitat, the Aquatic Conservation Strategy (ACS), cultural sites and soils. The categorical exclusion is appropriate in this situation because there are no extraordinary circumstances potentially having effects which may significantly affect the environment.

Public Involvement

A proposal to commercially salvage timber in the Snow/Salmon Creek watershed was listed in the Schedule of Proposed Actions on 1/1/07. Scoping letters were mailed and emailed to the public on 4/25/08. A public notice of opportunity to comment on this project was also published in *The Olympian* on 4/25/08, which initiated a 30-day comment period that ended on 5/24/08. In addition, the Skokomish, Port Gamble S'Klallam, and Jamestown S'Klallam tribes were consulted with on this project. Four comments were received in support of this project and four received expressed concerns regarding the impacts of the project as it was originally proposed.

Substantive comments made on this proposal were carefully considered by the interdisciplinary team during environmental analysis and project design. While the project record contains reports and documents on how the comments were considered, I would like to summarize consideration of some of the comments. Concerns were expressed about harvesting within Riparian Reserves as identified in the Forest Plan. My decision will allow some harvesting within Riparian Reserves, which is important to help achieve desired conditions for these areas. Mitigation measures, such as no-cut riparian buffers and requirements for leaving appropriate levels of

snags and coarse woody debris (CWD), will ensure that terrestrial and aquatic systems will be protected and Riparian Reserve standards and guidelines will be met (as documented in the Aquatic Conservation Strategy consistency report). I have reviewed the project's temporary roads and determined their location and use to be appropriate for minimizing detrimental impacts to soils. There may be up to 0.10 miles of temporary road in the RR's outer edge to access unit 1. This temporary road will utilize an existing road grade resulting in minimal tree removal. This location is outside the salvage unit where the forest vegetation in the RR is intact and will provide a forested buffer of 100 feet, or more. Concerns were raised about the lack of learning or adaptive management associated with the project. The team has identified key elements of the project design that will provide learning opportunities: various CWD retention objectives in salvage units, comparison of stand development in blowdown excluded from salvage to salvaged and reforested units, testing the application of hard and soft unit boundaries, using the Designation by Description contract provision for implementing CWD mitigations, and testing shovel logging's capabilities and impacts. This action will accomplish the objective of implementing a salvage project that is focused on a mix of ecological and economic objectives and provides learning opportunities for adaptive forest management.

Findings Required by Other Laws

As required by the National Forest Management Act, this decision is consistent with the Olympic National Forest Land and Resource Management Plan (1990) as amended by the 1994 Record of Decision for Amendments to Forest Service and Bureau of Land Management Planning Documents within the Range of the Northern Spotted Owl, and its amendments, as well as its attached Standards and Guidelines. This project is also consistent with the Snow/Salmon Watershed Analysis (1996) recommendations and the Olympic AMA Guide (1998).

Threatened and Endangered Species-The proposed action was assessed and found to be consistent with the 2003 – 2008 *Programmatic Biological Assessment for Selected Forest Management Activities, Olympic National Forest*, which addressed potential effects of projects on federally listed threatened and endangered species. It was determined that the proposed project is “Likely to Adversely Affect” northern spotted owl (< 10 acres of harassment) and marbled murrelets (<13 acres of harassment). This is due to the project's short term noise disturbance within a threshold distance to suitable habitat rather than effects to habitat. However, no harassment will occur within the 0.7 mile radius of any active owl nesting activity center during the early breeding season. The project is “Not Likely to Adversely Affect” designated critical habitat for northern spotted owl and will have “No Effect” on critical habitat for marbled murrelet. The project will have “No Effect” on Puget Sound Chinook salmon, Hood Canal summer chum salmon, bull trout and Puget Sound steelhead trout.

The proposed action will not affect northern spotted owl suitable habitat (nesting, roosting, or foraging), nor adversely affect their prey species, or the habitat they depend upon. The salvage of downed wood should not alter habitat function. Retention of snags and adequate levels of down wood should retain important features as these blowdown areas or adjacent standing forest develop into spotted owl habitat.

The proposed project will be consistent with the Northwest Forest Plan (1994, as amended) and the 2008 Final Spotted Owl Recovery Plan and will contribute to the long-term objectives outlined in the Spotted Owl Recovery Plan.

Additionally, on August 8, 2007, the bald eagle was delisted as a threatened species by the U.S. Fish & Wildlife Service, and automatically became designated as a Regional Forester’s Sensitive Species. The Forest Service is still required to follow conservation measures outlined in the post-delisting plan, which includes minimizing harassment. There should be no impact to eagles with this project.

Sensitive Species- Potential effects of the proposed project on Regional Forester’s Sensitive plant and animal species were evaluated. The commercial salvage areas were reviewed for likelihood of habitat of sensitive fish, wildlife and botanical species. Due to the lack of habitat or impacts to habitat, the project will have no impact on the Puget Oregonian snail, Malone's jumping slug, Evening fieldslug, Oregon Megomphix snail, blue-gray tailedropper, Hoko vertigo snail, Cope's Giant salamander, Olympic torrent salamander, common loon, American Peregrine falcon, bald eagle, Harlequin duck, Olympic marmot, Johnson's Hairstreak, Taylor's checkerspot, Olympic Arctic, and Dog Star Skipper. The project may impact individual warty jumping slug, Burrington's jumping slug, Van Dyke's salamander, Townsend’s big-eared bat, Keen's myotis, and Pacific fisher or their habitat but will not contribute to a trend towards federal listing or a loss of viability to the population or species. The following table summarizes determinations from the sensitive species biological evaluation:

Species	No Impact	<i>May Impact Individuals Or Habitat, But Will Not Likely Contribute To A Trend Towards Federal Listing Or Cause A Loss Of Viability To the Population or Species</i>
Olympic Mudminnow	X	
River Lamprey	X	
Puget Sound/ St Georgia Coho Salmon	X	
Lake Pleasant Sockeye Salmon	X	
Puget Sound Coastal Cutthroat Trout		X
Olympic Peninsula Coastal Cutthroat Trout	X	
Puget Oregonian (snail)	X	
Burrington's (Keeled) Jumping Slug		X
Warty Jumping Slug		X
Malone's Jumping Slug	X	
Evening Fieldslug	X	
Oregon Megomphix (snail)	X	
Blue-gray Taildropper Slug	X	
Hoko Vertigo (snail)	X	
Van Dyke's Salamander		X
Cope's Giant Salamander	X	
Olympic Torrent Salamander	X	
Common Loon	X	
American Peregrine Falcon	X	
Bald Eagle	X	
Harlequin Duck	X	
Townsend's Big-Eared Bat		X
Keen's Myotis		X
Pacific Fisher		X
Olympic (Western) Pocket Gopher	X	
Olympic Marmot	X	
Johnson's Hairstreak	X	
Taylor's Checkerspot	X	
Olympic Arctic	X	
Dog Star Skipper	X	

Surveys for sensitive plants were conducted to determine if there were any special status plant, fungi and lichen species documented in the project area. Existing field records in addition to field surveys determined that there are no old or new occurrences. Therefore, there are no anticipated adverse impacts to any of the listed sensitive amphibians, birds, mammals or plants.

Invasive Plants- Noxious weeds and other invasive plants may pose a serious threat to the health of National Forests. Executive Order 13112, Invasive Species (Feb. 1999), provides direction that “Federal agencies shall: (1) prevent the introduction of invasive species; (2) detect and respond rapidly to and control populations of such species in a cost-effective and environmentally sound manner; (3) monitor invasive species populations accurately and reliably; (4) provide for restoration of native species and habitat conditions in ecosystems that have been invaded.” This project also follows the standards in the Olympic National Forest Site-Specific Invasive Plant Treatment Project (USDA, 2008). Mitigation measures have been designed for this project to prevent the spread of invasive species. Reforestation will also minimize the area available for colonization by invasive plants. The following invasive plants were found in the project area: bull thistle, Canadian thistle, tansy ragwort, everlasting peavine, brownray knapweed, herb robert, reed canarygrass, and hairy cat’s ear.

Cultural Resources- A cultural resource effects determination was prepared and submitted to the Washington State Office of Archeology and Historic Preservation (OAHP) on July 16, 2008. Field surveys were conducted for the salvage area. No cultural resources were identified, and therefore, it was determined that there would be no impacts to cultural resources.

Aquatic Conservation Strategy Consistency Finding and Rationale

I have reviewed the relevant analysis for this project that pertains to the Aquatic Conservation Strategy Objectives (NWFP ROD 1994), and I find that this decision meets these objectives. I have reviewed the analysis of the existing condition and desired future condition or range of natural variability of important physical and biological components as documented in the Snow/Salmon Watershed Analysis (USDA 1996) and specialist input. I am confident with my finding that this decision will meet the Aquatic Conservation Strategy Objectives.

Implementation Date

If no appeal is filed within the 45-day time period, implementation of the decision may begin on the 5th business day following the close of the appeal-filing period. If an appeal is filed, the decision may not be implemented until 15 business days following the date of appeal disposition [36 CFR 215.9].

Administrative Review or Appeal Opportunities

This decision is subject to appeal pursuant to Forest Service regulations at 36 CFR 215. Any individual or organization who submitted comments during the comment period specified at 36 CFR.6 may appeal. Written notice of appeal must be postmarked or received by the Appeal

Deciding Officer, Regional Forester Linda Goodman, ATTN: Appeals, USDA Forest Service, PO Box 3623, Portland, OR 97208-3623 within 45 days of the date of publication of notice regarding this decision in *The Olympian* (Olympia, WA). The appeal must state that the document is an appeal pursuant to 36 CFR 215, and at a minimum must meet the content requirements of 36 CFR 215.14, and include the name and address of the appellant, and must identify the decision by title, subject, date of decision, and name of the Responsible Official. The appeal narrative must be sufficient to identify the specific change(s) to the decision sought by the appellant or portions of the decision to which the appellant objects, and must state how the Responsible Official's decision fails to consider comments previously provided. If applicable, the appeal should state how the appellant believes this decision violates law, regulation, or policy.

Appeals (including attachments) may be filed by regular mail, fax, e-mail, hand delivery, express delivery, or messenger service. The publication date of the notice regarding this decision in the newspaper of record is the sole means of calculating the appeal filing deadline, and those wishing to appeal should not rely on dates or timelines from any other source. E-mail appeals must be submitted to: appeals-pacificnorthwest-regional-office@fs.fed.us, and must be in one of the following three formats: Microsoft Word, rich text format (rtf) or Adobe Portable Document Format (pdf). FAX appeals must be submitted to: 503-808-2255. Appeals may be hand-delivered to the Resource Planning and Monitoring Office, 333 SW First Ave., Portland, between 8:00 AM and 4:30 PM Monday-Friday.

It is the responsibility of all individuals and organizations to ensure their appeals are received in a timely manner. For electronically mailed appeals, the sender should normally receive an automated electronic acknowledgement from the agency as confirmation of receipt. If the sender does not receive an automated acknowledgement of the receipt of the appeal, it is the sender's responsibility to ensure timely receipt by other means.

Contact Person

For additional information concerning this decision or the Forest Service appeal process, contact Jason Jeffcoat, Silviculturist, Olympic National Forest, 1835 Black Lake Blvd. SW Suite A, Olympia, WA 98512, (360) 956- 2309.

/s/ Dale Hom

08/15/08

Dale Hom

Date

Forest Supervisor

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Appendix A - Mitigation Measures

Aquatics

- No cut buffers within Riparian Reserves consists of the stream and the area on each side of the stream, extending from the edges of the active stream channel, or the outer edge of riparian-dependent vegetation (if present), to a distance of 66 feet slope distance (132 feet including both sides of the stream channel). No cutting of standing trees for skyline corridors within riparian no-cut buffers.
- No landings shall be located within riparian no-cut buffers except where they are located on existing system roads.
- There will be no new stream crossings within Riparian Reserves for temporary roads.
- No temporary road construction is allowed within riparian no-cut buffers.
- Design fuel treatment activities to minimize disturbance to riparian vegetation. Fuel management activities will not occur within no-cut buffers and adjacent to wetlands or riparian areas.
- Harvest machinery should not operate within 20 feet of wetlands or seasonally wet areas.
- Ground based equipment may be allowed to operate in specific wet areas during drier condition using approved log puncheon. Forest Service will identify location prior to operations.
- Trees lying in wetlands would not be removed if it would result in any damage to vegetation or soils.
- A watershed specialist or fish biologist shall be consulted prior to modifying any of the project design criteria that could impact aquatic resources.

Botany and Invasive Plants

- When practical, treat existing invasive plant infestations with appropriate herbicide, mechanical, or manual methods before ground disturbing activities begin. If timing or resources prevent treatment before the project begins, then treat infestations in the project area upon completion of the project in order to prevent invasive plants from colonizing the disturbed ground.
- Clean all off-road equipment of dirt/mud, seeds, and other plant parts before it is moved onto National Forest Service land. If operating in an area infested with invasive plants, clean all equipment before moving between sites or leaving the project area. For cleaning equipment on Forest Service land, the purchaser and Forest Service shall agree on methods of cleaning, locations of the cleaning, and control of off-site impacts, if any. **'Off-road equipment' includes** all machinery other than log trucks, chip vans, pickup trucks or vehicles used to transport personnel on a daily basis.
- A Forest Service, or designated, weed specialist shall inspect proposed material (e. g. soil, gravel, sand borrow, aggregates, etc.) sources to determine weed-free status. The purchaser shall provide the Contracting Officer written notification of proposed material

sources 14 days prior to use. If weed species are present in the proposed source, appropriate mitigation measures may allow conditional use of the source as required by the Contracting Officer.

- Fill material generated from the project site, containing or suspected to contain invasive plants, shall be stockpiled within the project area and as close to the infested source area as possible. The material shall not be broadcast for disposal.
- Mulch used on the project shall be weed-free. The Contracting Officer may request written documentation of methods used to determine the weed-free status of any and all materials furnished by the purchaser. Purchaser-provided expertise and methods to establish weed-free status must be appropriate for the weeds on the current Washington State noxious weed list.
- Give priority to seed mixes and plantings with local native species. When available, seed used in the project shall be weed-free and meet state and local noxious weed laws.

Fire

- Activity fuels will be minimized in a strip 60 to 100 feet wide along the existing roads that will be open to public motorized vehicle use after treatments are completed. Total fuel loading within these strips will be continuously less than a total of 8 tons per acre for 1 hour, 10 hour, and 100 hr fuel size classes. Any remaining activity fuels will be transported back into the thinning unit or piled and burned, so that concentrations of fuels within the strip will be no deeper than 1 to 2 feet.
- No activity fuels, to the extent practical, will remain to create additional continuous fuel bed at log landings. Activities fuels will be transported back into the units or piled and burned or a combination of both methods. Fuels transported into the unit from landings should not create a continuous fuel concentration.
- Accumulations of fuels created or left for wildlife use and other resource benefit should not be continuous and should be at least 66 feet from any road that will remain open for public use.
- Interior areas of treatment units may contain higher loadings of fuels. Activities in the harvest process that promote compacting of fuels, decreasing continuity, and lowering fuel depth are encouraged. An example is the use of machinery during harvest that incidentally crushes fuels creating a lower fuel depth.

Silviculture/Timber

- Reforestation is a required KV project associated with the salvage sale.
- Develop detailed silvicultural prescriptions as guides for applying mitigations during sale layout, sale implementation and post-sale reforestation.
- Use hard and soft line unit boundaries. Hard lines for unit boundaries adjacent to LSR and RR no-cut buffers where logs are to be bucked at the line and only the portion in the

unit may be salvaged. Soft lines for all other unit boundaries where logs can be pulled back into the unit and salvaged if the root wad is within the unit.

- Use the Designation by Description contract provision for implementing CWD retention mitigations.
- System roads will be closed when utilized for landings.

Soils

Skid Trails

- Ground-based harvesting will be conducted using shovel logging equipment that has ground pressure of 8 pounds per square inch or less.
- Ground-based equipment should generally be limited to slopes less than 30% for ground-based (unless otherwise approved by the timber sale administrator) to minimize soil disturbance, and shall be confined to designated skid trail systems approved by the timber sale administrator. Skid trails should not exceed 12 feet in width and would have slash placed on them prior to use by equipment whenever possible.
- Space skid trails no closer than 110 feet apart, center-to-center. Equipment may be allowed to make one pass between skid trails and occasional “pokes” off the skid trail, using existing openings between trees.
- Skid trail junctions will be set back from landings on ground-based harvest units to minimize landing openings. No more than two skid trails will intersect the landing unless otherwise agreed to in writing by the Forest Service.
- The reopening of old skid trails and temporary roads should be used where possible and as approved by Sale Administrator in lieu of the construction of new ones if they are located in areas that would prevent sediment delivery to streams and avoid wet areas.
- If ground based operations results in skid trail damage where rutting depth exceeds 6 inches for a distance of 20 feet or more, the following actions will be required: 1) subsoiling the full width of the trail to the depth of the rut plus six inches, 2) returning all displaced soils on adjacent berms and any excavated material to the skid trail to approximate original soil contours, 3) replacing any disturbed large coarse woody debris as closely as possible to its original position, and 4) placing slash and stumps onto the trail so that it is contiguous with the surrounding area. Install erosion control devices such as backblading and water bars, as necessary, on all other skid trails.
- Leave non-merchantable portions of cut trees in units. Within ground-based yarding units, place slash from landing on skid roads to reduce the risk of erosion, compaction and runoff and other adverse soil conditions, as well as provide wildlife habitat.

Cable Yarding Systems

- Skyline roads should be a minimum of 120 feet apart center to center and will not exceed 12 feet in width for parallel roads.

- The skyline carriage shall be capable of pulling slack and be able to maintain a fixed position on the skyline during lateral yarding.
- One end suspension during inhaul of logs for skyline systems.

Roads

- Construct temporary roads to contour with the terrain and roll grades where possible to reduce clearing limits and excavation. On soft soils, use puncheon (small logs) where appropriate within the road surface for strength and drainage, as well as reducing fill material needed. Minimize clearing widths to what is necessary for safe haul (generally widths of 16 ft on level ground, 20 ft. for curves, and slightly more for steeper grades).
- Maximize maintenance activities during summer and early fall to avoid wet conditions and minimize sedimentation.
- Use existing landings where possible. Use short landing extensions to reduce and control potential runoff.
- Following use, scarify and mulch to establish vegetation on newly constructed landings. Plant native species, if available, using straw and/or distribute natural slash and coarse woody debris across landings, unless waived by the Sale Administrator.
- Review all existing culverts on system roads to be used for timber sale(s), and repair/replace as funding allows those that are determined not suitable for the operations.
- Decommission all temporary roads as soon as possible after operations are completed by purchaser. Methods may vary, but as a standard, roads will at least receive treatments of backblading, water bars, culvert removal, and barriers to vehicular traffic. Pullback of fills may be necessary and the original slope returned to grade. Further activities can be used to achieve full decommissioning. These methods include deep subsoiling, the return of all disturbed coarse woody debris, and the placement of slash such that it is contiguous with the surrounding debris. Stumps may also be placed on decommissioned roadbeds.

Log Haul

- Road surfaces used will be bladed and cross-drained as outlined under C(T)5.31#. Ditches and culvert inlets will be kept free of debris.
- To minimize the amount of sediment delivered to streams along the haul route, sediment barriers (straw bales, slash filter windrow and/or sediment fence) will be placed in ditch lines along the haul route or in areas where ground is disturbed and sediment has the potential for delivery to streams (i.e. stream crossing fills). Sediment filters will be maintained and adjusted as directed by the sale administrator. Precautions will be followed to minimize transport of trapped sediment material during removal, including the following:
 - removal will be done when site conditions are dry and/or
 - Relocate captured sediment to a stable location away from streamcourses.

- If maintenance cannot be performed adequately due to weather, haul will be discontinued until conditions improve.
- Log haul will be allowed during freezing conditions, but will be suspended as roads begin to thaw. Purchaser will work with Forest Service Engineering Representative to develop standards for checking thaw.
- Plowing of snow will be permitted as needed, if the T-803 Snow Removal requirements are met.
- Install sufficient ditch relief pipes on temporary roads to divert flow before it reaches stream channels.
- If the purchaser's plan of operations includes log haul between November 1 and May 31, a watershed specialist/fish biologist and Timber Sale Administrator will review the purchaser's plan to prevent sediment from entering stream channels. This may include placing additional road surfacing, rock armoring ditches, constructing silt fencing, and straw mulching exposed soils along cut banks and fill slopes.

Wildlife

- No operations that create noise levels above ambient conditions (92 decibels) are permitted within Units 1, 2, and 12 between March 1 and July 15.
- Between April 1 and September 15, all activities that create noise above ambient levels that are within harassment distance (135ft) to suitable habitat for marbled murrelets will not begin until 2 hrs after sunrise and will cease 2 hrs before sunset (SE edges units 9 and 11,).
- No removal of potential nest trees or suitable habitat of spotted owl and marbled murrelet.
- No removal of down wood and live trees where stand canopy cover exceeds 40% and or where down wood coverage is less than the threshold for that unit, where in or adjacent to spotted owl dispersal or suitable habitat.
- Cutting of snags or standing live trees (replacement snags or CWD) should be avoided wherever possible in salvage areas and operational parameters and coarse wood focal areas (i.e., "skips") be used to mitigate safety concerns.
- Any snags, or live trees 21 inches dbh or greater, that are cut for safety reasons or temporary road construction must be left on site to contribute to down wood objectives.
- For Units 1, 2, and 12, retain an average of 13% cover of down wood greater than 5 inches in diameter and 10 feet long, with higher density areas of 21% cover over 25% of the unit, especially within riparian areas or within 1 tree length of timbered edges. Riparian areas and immediately adjacent blown down LSR areas removed from salvage may count toward high level areas if not adjacent to road. Average tree diameters and heights for that stand will be used to convert percent cover to a number of trees to be left.

- For units 3, 5, 11,13 and 14, retain an average of at least 9% cover of down wood greater than 5 inches diameter and 10 feet long, with higher density areas of 11 % cover in 15% of the unit, with the same preferences for high density retention as given above.
- For Units 6-10, retain an average of at least 5% cover of down wood over the unit.
- Minimize disturbance to Decay Class 4 and 5 down wood.
- Retention within salvage areas that are within 50m (164 ft) of opened roads do not count toward meeting minimum down wood (except for Decay Class 4 and 5 wood) but wood can be left in this band to prevent vehicular access and meet other resource needs.
- Maintain existing high coarse wood levels in LSR blow down areas to compensate for salvage removal and naturally low levels.
- Signage, access management, and enforcement should be used to reduce removal of down wood in LSR or other high priority retention areas.
- Wherever possible focal areas for retention of down wood for wildlife values should be greater than 200 feet from drivable roads that are accessible to the public.

Cultural

- If subsurface archaeological evidence or previously unidentified cultural resources are located during implementation of this project, activities will cease pending an evaluation of cultural significance by a qualified archaeologist, who will determine appropriate mitigation measures, if any. The Forest will fulfill its consultation requirements in accordance with 36 CFR 800.11.

The attached map shows the blowdown in the project area, the salvage units, NWFP Land Allocations and the logging systems for this project.

Snow Creek Salvage

JJ, 7/23/08

Legend

- AMA
- LSR
- Riparian Reserve
- 66' No-Salvage Buffer
- Non-salvage blowdown
- System Road
- Potential Landing
- Potential Temp Road
- Cable
- Ground Based (Shovel)

