

Appendix C: Vegetation Treatments

Introduction

The timber salvage harvest and fuels treatments proposed in the action alternatives are designed to meet one or more of the following objectives for vegetation management. All harvest is on lands identified as suitable for timber production in the Forest Plan.

- Recover merchantable timber from areas affected by wind damage;
 - Meet Forest Plan guidance for the management areas where wind damage has occurred;
 - Reduce forest fuels buildup adjacent to public and private lands;
 - Improve the general health, resiliency, and sustainability of forested communities; and
 - Reduce the risk of insect epidemics and disease infestations within the project area.
- Provide wood products for local communities.
 - Contribute to short-term products for the local timber industry and provide for long-term sustainability of timber on NFS lands.

All of the proposed treatments emphasize retaining important stand components of leave trees, standing and down large logs, and hardwood trees; all of which help meet the present and future function and process of forest systems.

Vegetation Treatment Descriptions and Illustrations

Following are descriptions and illustrations of proposed treatments.

Salvage Harvest

The purpose of this entry is to remove dead, dying, or damaged trees from treatment areas to recover economic value that would otherwise be lost. The primary agent of damage is wind, which has resulted in trees, which are uprooted, broken, and/or severely leaning. Merchantable trees, which have been killed by other damage agents and are located within the treatment areas, may also be removed in this entry. Damage severity is variable within and across treatment areas. In severely affected areas, reforestation may be necessary. Regeneration would likely result from a combination of natural seeding and planted seedlings. Mechanical logging systems would be used to extract merchantable material and reduce logging slash/fuel loadings. It is likely that some incidental live or dead, non-wind damaged trees would need to be felled to facilitate skid trails, yarding corridors, and/

or landings. The exact location of these features would be agreed upon between the Forest Service and the Timber Sale Purchaser.

In the Mid Swan Blowdown Salvage Project, Salvage Harvest is proposed as follows:

- Alternative B – 690 acres**
- Alternative C – 622 acres**
- Alternative D – 636 acres**

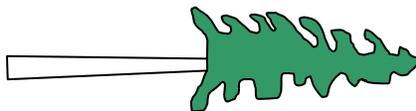
Fuel Treatments

A number of prescribed treatments are designed to reduce natural and activity generated fuels within the proposed treatment areas. These treatments include mechanical methods and the use of prescribed fire. Mechanical treatments could include a combination of the following: whole tree yarding, lopping and scattering, and/or excavator piling. Fuel accumulations at landings would be addressed through burning, chipping/masticating, and/or removal from NFS lands. Prescribed fire treatments could include pile burning and/or jackpot burning.

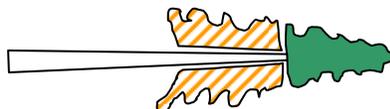
Some of the following descriptions are taken from FSH 2409.18, R1 supplement 2409.18-95-3. They are organized here to describe slash and fuel treatments identified for specific units and on landings within the Mid-Swan Blowdown Project. The Mid-Swan Blowdown analysis allowed for multiple slash/fuel treatment options within a given unit in many cases. Specific diameters, lengths, and additional specifications will be added during contract development. Graphical depictions of some treatments are included. Some of these activities may be accomplished by Forest Service personnel and not included in a timber sale contract.

Whole Tree Yarding: Within this project Whole Tree Yarding can include one or a combination of the following treatments:

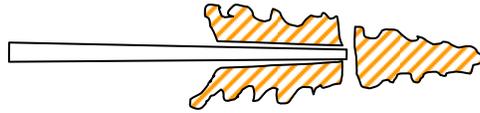
- a) Purchaser shall leave tops and limbs of felled trees attached to Included Timber and yard them to landings (within the entire cutting unit) (within a strip X feet in width) as shown on the Hazard Reduction and Site Preparation Map. Tops and limbs which are lost on the way to the landing site due to normal felling, skidding and/or yarding operations are not required to be yarded.



- b) Purchaser shall leave the tops of felled trees attached to the top log and yard them to landings (within the entire cutting unit) (within a strip X feet in width) as shown on the Hazard Reduction and Site Preparation Map. Limbs on Included Timber portion are removed and left in woods and trees are tree-length or log-length skidded.



Lopping: Prior to skidding operations, Purchaser shall cut all exposed limbs from Included Timber. Such limbing shall be done to a top diameter of approximately X inches diameter inside bark, at which point the top will be cut from the remainder of the stem. Limbs shall be severed from the remaining top and all limbs cut from the top and boles will not extend over X feet in height above the ground. All tops and limbs left in woods and trees are tree-length or log-length skidded.



Scattering: Logging slash shall be scattered away from and without unnecessary damage to residual trees. All scattered logs shall be limbed, placed away from trees and positioned so they will not roll. Other logging slash shall be scattered to reduce slash concentrations with slash being generally left within X inches of the ground and not in piles.

Excavator (Machine/Grapple) Piling: Purchaser shall machine pile all slash meeting the following specifications in cutting units or portions of cutting units as shown on the Hazard Reduction and Site Preparation Map. Piles shall be compact, free of soil and of sufficient size to facilitate burning. Piles will be a minimum height of X feet and shall be placed no closer than X feet from the outside perimeter of the unit, system roads, wet areas, or other areas designated on the ground by the Forest Service. No pile or windrow shall be closer than X feet from any standing reserve trees. All material extending more than X feet beyond the outside perimeter of the pile shall be trimmed off and returned to the pile.

The crawler-type excavator shall be equipped with a grapple or a bucket with a thumb, or a combination of both. The machine must be capable of reaching 20 feet either side of the machine and be able to pile slash at least 15 feet in height. The grapple or bucket must be capable of grasping slash 2 inches to 30 inches in diameter. The excavator must be capable of operating on 45 percent side slopes.

Chipping: Logging slash that can be chipped up to X inches in diameter shall be processed through a chipping machine. Chips shall be scattered to a loose depth not to exceed X inches within the cutting unit (outside of the cutting unit). Chips will not be piled.

Pile Burning: Piles will be burnt through hand ignition under appropriate conditions to facilitate consumption of piled material and minimize damage to residual trees.

Jackpot Burning: Concentrations of slash/fuel will be burnt through hand ignition under appropriate conditions to facilitate consumption of concentrations and minimize damage to residual trees.

Site Preparation

Depending on wind damage severity, existing vegetation, and ground conditions, site preparation may be prescribed to help create favorable conditions to help ensure adequate regeneration. These treatments are often prescribed in both artificial and natural regeneration situations and typically address competing vegetation, seed bed preparation, fuel accumulations, and duff reduction. Site preparation can be accomplished through hand, mechanical, or prescribed fire methods. Hand methods usually involve creating favorable conditions at the time of planting using hand tools. Mechanical treatments are often accomplished during harvest operations or shortly afterwards and involve scarification and seed bed preparation through the use of mechanized equipment. Prescribed fire can also be used to recycle nutrients, consume excess fuels, reduce competing vegetation, and create a favorable seedbed.

Hand Planting (Reforestation)

Within the proposed salvage units, reforestation is only proposed in areas where wind damage has resulted in an unstocked condition. As mentioned earlier, areas with severe wind damage are the exception in this project. All or portions of Units 6, 8, 10, and 11 are likely to have reforestation needs. The exact extent of these needs would be determined following salvage harvest operations.

In the Mid Swan Blowdown Salvage Project, salvage harvest is proposed as follows:

Alternative B – 90 acres
Alternative C – 83 acres
Alternative D – 59 acres