



UI Extension Forestry Information Series II

Forest Management No. 53

Best Management Practices (BMP's) for Timber Harvesting in Idaho

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Best Management Practices (BMP's) were developed as recommendations for Idaho's forest owners and managers to follow, not only to comply with the Idaho Forest Practices Act, but also to enable us to be better land managers and stewards. BMP's have been determined to be the most effective and practicable means of preventing or reducing the amount of non-point pollution generated by forest practices. BMP's apply to all aspects of forest management – road planning, design, construction, and maintenance, timber harvest planning and execution, and streamside management.



Road building is an important timber harvesting activity that can greatly affect water quality.

Harvest Design

Spend time planning your timber harvest, it involves much more than just cutting trees. The way you harvest your timber can have long lasting effects on a number of important forest resources.

Consider what effects your harvest will have in the watershed and how these effects combined with management activities on other parcels may compound problems, such as increased sedimentation and water yields and decrease water quality. Identify erosion hazards – some soils are more easily

erodible than others and as slope increases, so does erosion potential.

How will your harvest affect wildlife habitats? Consider the three components necessary for wildlife to thrive – food, water, and shelter. By removing one or all of these components you would be displacing resident wildlife populations.

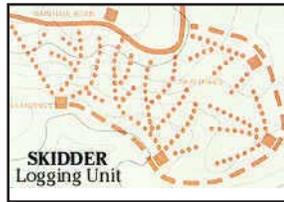


Wildlife need three components to survive - food, water, and shelter.

Know what you want your forest to look like after the harvest – what species of trees you want and what other plants you have that may need to be protected to ensure survival. Plan on leaving the healthiest trees of each desired tree species to provide seed for future generations. Ensure these trees do not become damaged during the harvest by marking them as leave trees and not establishing skid trails and landings close by.

Look at the characteristics your site and determine the best harvest method. Some pieces of ground will require a combination of harvesting systems. It is best to use a topographic map as well as walking the ground when making harvest system decisions.

On flat and gentle slopes, harvesting by tractor, skidder, or even horses are common choices. Planning the location of your skid trails is important. Up to 40% of an area can be covered with skid trails if they are not planned and marked in advance. When planning skid trails and landings:



Designating skid trails and landings are critical BMP's.

- Plan for revegetation of skid trails and landings before the next growing season.

For sensitive areas, mechanical harvesters called feller-bunchers are a good choice. These machines are capable of both harvesting and piling trees into bunches. They can reach into sensitive areas and harvest individual trees without damaging remaining trees, degrading water quality, compacting soils, or disturbing wildlife habitat.

As the terrain becomes more rugged and steep, other options such as skyline and cable harvesting come into play. Skyline operations usually operate from a road at the top of the unit and use a suspended cable (skyline) to reach down the hillside and pull suspended logs up to designated landings located along the road. By moving logs with a skyline system you eliminate the need for skid trails and reduce soil disturbance and compaction.

- Designate skid trails to minimize soil disturbances and compaction.
- Minimize the size and number of logs landings which allow for a safer and more economical operation.
- Limit the grade of your skid trails to 30%, especially on geologically unstable, saturated, highly erodible soils.
- In Idaho, ground based skidding on sites with more than a 45% slope and which are immediately adjacent to Class I or II streams may not be conducted except with an approved variance from the Idaho Department of Lands.
- Locate skid trails away from natural drainage systems and on stable areas to prevent the risk of material entering streams. Skid trails are not allowed in Stream Protection Zones (SPZ's).
- Plan your skid trails so they divert runoff to stable areas, not concentrate runoff and creates breaks in grades. Plan, install, and maintain drainage systems for each landing and skid trail that will control the dispersal of water and prevent sediment from entering stream systems.
- Install cross ditches on skid trails where needed.



Feller bunchers are a good choice for sensitive areas such as riparian zones.

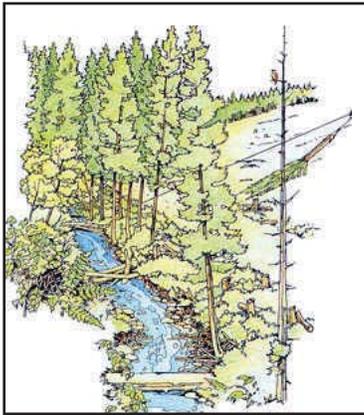


Skyline and cable harvesting are good options for rugged and steep terrain.

Slash Treatment and Site Preparation

The law requires fire hazard reduction by treating our slash. Planning what you will do with your slash and how you will prepare the site for the next generation of trees before the harvest will save you time and money.

The Idaho Forest Practices Act states “Within 10 days, or a time mutually agreed upon ..., the department shall make a determination of



Stream Protection Zones (SPZ's) are mandated minimum slope distances on each side of the ordinary high water marks of a stream.

the potential fire hazard and hazard reduction and/or hazard offsets, if any, to reduce, abate, or offset fire hazard.”

This determination is based on a point system that can be found in the Idaho Forest Practices Act (Subsection 070.03e).

Slash should never be pushed into Stream Protection Zones (SPZ's). All debris associated with

harvesting will need to be located so it does not enter streams via erosion, high water, or other means. Whenever possible, trees should be felled, bucked, and limbed so that material does not enter Class I streams. Remove slash from Class I streams as it occurs. Removal of harvesting debris from Class II streams is required whenever there is a potential for stream blockage or if the stream has the ability for transporting debris to a Class I stream or other body of water.

Dozer piling slash is a common practice and piling brush and scarifying soil surfaces is best done when soil is dry or frozen to minimize soil compaction and displacement. Most tree species need bare mineral soil for seedling germination and the removal of slash from the forest floor will enhance germination results.

Prescribed burning is another way to treat slash and prepare sites for seed germination, but for private landowners it is a method best planned and handled by experienced commercial operators or consultants.

Residual stocking and reforestation are other requirements set by the Idaho Forest Practices Act, and specifies “a minimum number of trees per acre, the maximum period of time allowed

after harvest for establishment of forest tree species, and for sites not requiring reforestation, to maintain soil productivity and minimize erosion.” Acceptable post-harvest stocking levels are shown in Figure 1.

Figure 1. Acceptable Post-harvest stocking levels.

Avg. Size Class DBH in inches	Avg. Number Trees/Acre	Avg. Spacing in Feet
2.9 and smaller	170	16 x 16
3.0 and greater	110	20 x 20
5.0 and greater	60	27 x 27
8.0 and greater	35	35 x 35
11.0 and greater	20	47 x 47

If stocking levels do not meet requirements after three growing seasons after the harvest, seeding and/or planting may be required. These activities will need to be completed by the fifth growing season following the harvest. If suitable seed or seedlings cannot be found, or if inclement weather interferes with reforestation plans, you may apply to the Idaho Department of Lands for an extension.

For more information on the Idaho Forest Practices Act and Forestry BMP's, contact your local Idaho Department of Lands Forest Practices Advisor (listed in your phone book) and request a copy of “Rules Pertaining to the Idaho Forest Practices Act, Title 38, Chapter 13, Idaho Code”.

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