

FORESTRY Best Management Practices

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definition - Best management practices (BMPs) are proactive and often voluntary practical methods or practices used during forest management to achieve goals related to water quality, silviculture, wildlife and biodiversity, aesthetics, and/or recreation.

application - Harvesting, silviculture, and road design are tools to attain certain goals, but necessitate specific practices to ensure the continued quality and sustainable productivity of the forest. BMPs should be used, as warranted, under specific conditions and at appropriate times and sites.

BMPs can be divided into separate categories that relate to specific, if somewhat subjective goals. Goals specify the outcome of forest management activities associated with each category of BMP

<u>Category</u>	<u>Common Goals</u>
water quality	<ul style="list-style-type: none">• reduce or eliminate non-point source pollution; maintain water clarity, quality, and quantity for human consumption and fish and wildlife habitat
silviculture	<ul style="list-style-type: none">• maintain the desired stand characteristics, including adequate regeneration of suitable species
wildlife and biodiversity	<ul style="list-style-type: none">• provide habitat, food, and cover for a variety of wildlife species; optimize diversity of native plant and animal species among stands (landscape approach)
soil quality	<ul style="list-style-type: none">• maintain soil characteristics to ensure the potential of the site to continue productivity at current and historic levels
aesthetics	<ul style="list-style-type: none">• create or maintain forest conditions that are aesthetically pleasing (entirely subjective and owner specific)
recreation	<ul style="list-style-type: none">• provide opportunities for land owners and/or the public to pursue desired, often multiple-use, recreational activities

constraints - Constraints are biological and physical characteristics of a forest stand. The financial and stewardship interests of owners further determine the appropriate BMPs to attain management goals. Each category of BMP has constraints, some of which overlap with other BMP categories. Examples of constraints include: soil type, aspect and degree of slope, distance to water body and water source, deer population density, proximity and visibility to public, and season.

As noted above, BMPs are appropriate for several aspects of forest management. One area that has received considerable attention is the use of BMPs to maintain water quality. The following list is provided as a guideline. If you are interested in more detailed information, contact your local office of Cornell Cooperative Extension or Soil and Water Conservation District.

BMPs Guidelines for Water Quality

Timber Harvesting Systems and Skid Trail Layout

- erosion associated with harvesting typically results from poorly designed skid and haul roads
- reduce costs by using the least amount of road to complete the job safely and effectively
- use existing roads when possible
- locate roads away from poorly drained sites and soils
- maintain protective buffers between roads and streams; minimum buffer widths of 100 ft and an additional 5 ft for each 1 percent of slope greater than 10%.
- locate roads on contours and install water bars; decrease distance between water bars on steeper slopes such as 175' for 5%; 90' for 10%; 70' for 15%, 50' for 20%, and 40' for 20+ %.
- forwarders cause less rutting and skid trail disturbance than either tracked or rubber tire skidders
- trees should be winched to the skidder rather than driving skidder to each tree

Landings

- locate landings on gentle slopes with drainage, or slope land to provide drainage
- do not locate landings on poorly drained soils
- locate landings 200 feet away from streams, or use sediment and erosion control devices
- install diversion ditches on the uphill side of landings
- properly store and dispose of petroleum products and containers

Stream crossings

- avoid stream crossings whenever possible
- many streams are DEC classified and require a permit to establish a crossing
- bridges and culverts can be used for stream crossings to prevent erosion
- fords can be used where stream banks are hard and the stream channel contains rock or gravel

Wetlands/Streams/Lakes

- aquatic areas provide many important ecological services, and require extra precautions
- when harvesting in DEC designated wetlands, comply with necessary permits
- maintain buffer strips around wetlands, streams, and lakes
- avoid crossing nonforested wetlands, cross only if frozen or dry enough to prevent rutting
- do not add or remove woody debris to streams
- leave 60 to 80 square feet of basal area of trees in forested wetlands

Site stabilization, closure, and revegetation

- grade roads and landings to fill ruts
- remove temporary stream crossing devices
- install water bars on permanent roads, prevent vehicular access as necessary
- grade roads and side ditches to ensure proper drainage
- loosen soil in heavily compacted areas before seeding
- seed and mulch disturbed areas to stabilize soils, use appropriate seed mixtures

Season of Harvesting

- minimize or avoid wet season (Spring and Fall) logging except on very well drained soils
- summer logging may scarify soils necessary for establishment of some species
- bark "slips" more easily when bumped during the Spring season