

## **Rutting Guidelines**

### **For Timber Harvesting and TRPs on State Forests**

May 2008

***Acknowledgements:** Significant portions of this document including wording and formatting that came directly from the Washburn County (Wisconsin) Forest Comprehensive Land Use Plan (Draft-10/19/05), Marinette County (Wisconsin) Forest Soil Disturbance Guidelines and the Michigan Draft Interim Rutting Guidelines (Draft-4/16/2007). Special thanks to the states of Wisconsin and Michigan for their help in the development of these guidelines.*

**Guideline Usage:** These guidelines are provided as a tool to assist the Bureau of State Land Management staff when conducting a timber harvest or Temporary Revocable Permit (TRP) on State Forests. Staff may choose to deviate from these guidelines where appropriate when addressing unique circumstances otherwise not described below. Any deviations should be documented, either written and/or on a map, showing the extenuating circumstances, including a plan for addressing the problem. All documentation should be kept on file within the Regional Office where the timber harvest or TRP took place. Final decision making authority as to the management of rutting on timber harvests and TRPs on State Forests lies with the Regional Forester or his designee (Supervising Forester, Senior Forester, Forester Trainee, or Forestry Technician).

**Background:** Soil compaction and rutting can reduce the productivity of a site, disrupt surface drainage and infiltration, and contribute to sediment movement from erosion. During timber harvesting and TRP use soil compaction results from an increase in soil bulk density, primarily due to the ground pressure of harvesting and construction equipment. Compaction may occur over broad areas, where it would not necessarily result in the visible depressions associated with rutting. Rutting occurs when soil strength is not sufficient to support the applied load from vehicle or equipment traffic on unpaved forest roads and trails (access system). A rut is a depression made into the soil surface by the passage of a vehicle or equipment. For the purposes of these guidelines, **a rut is defined as: A 6" or greater depression, measured from the immediately adjacent soil surface to the bottom of the depression, created from the passage of a vehicle or equipment (Figure 1).**

A well planned and laid out access system, utilizing appropriate best management practices (BMPs), concentrates site disturbance, soil compaction, and rutting to these limited corridors while protecting water quality and overall site productivity of the general harvest area. These systems may become a permanent feature on the landscape and should be considered essentially removed from the production of timber. Similarly, permanent access systems have added benefits of increasing passive public recreational opportunities after the operation is complete and assuring access for future administrative use.

These guidelines apply to TRPs, local and revenue timber sales on State Forests, and to the State Forest road system. These guidelines do not apply to intentional soil disturbance, such as mechanical site preparation or construction activities complying with a forest stand prescription or TRP. For more information please refer to the *New York State Forestry Best Management Practices for Water Quality - BMP Field Guide*, relevant handbooks, and other appropriate reference documents.

## **Rutting Guidelines:**

1. Existing roads systems will be utilized when environmentally appropriate. The DEC Regional Forester or his designee (Supervising Forester, Senior Forester, Forester Trainee or Forestry Technician) will determine what is or is not environmentally appropriate, and may consult with other DEC staff when necessary.
2. The DEC Regional Forester or his designee (Supervising Forester, Senior Forester, Forester Trainee or Forestry Technician) will have final approval in designating the location of new, and modifications of existing public forest access roads, haul roads, skid trails, landings, and may consult with other DEC staff when necessary.
3. The *New York State Forestry Best Management Practices for Water Quality - BMP Field Guide*, DEC Bureau of State Land Management *Rutting Guidelines*, DEC Bureau of State Land Management *Unpaved Forest Road Handbook*, and the DEC Division of Lands and Forests *Management Rules for Establishment of Special Management Zones on State Forests* should be followed during all phases of timber sales and TRPs in order to prevent or reduce soil erosion and sedimentation of surface waters, wetlands and other water bodies.
4. Expanding the footprint of public forest access roads, haul roads, skid trails, and landings to maneuver around wet or muddy areas that develop during use should be avoided unless authorized by the DEC Regional Forester or his designee.
5. It is expected that appropriate measures will be taken to prevent excessive rutting as determined by the DEC Regional Forester or his designee. If excessive rutting occurs operations will be suspended or actions will be taken to address rutting problems. Actions may include but are not limited to hardening road surfaces with gravel, corduroy, geotextile fabric, or by correcting drainage issues.
6. The DEC Bureau of State Land Management, the Regional Forester, or his designee may modify standards in these guidelines, at any time, if modifications provide equal or greater soil and water protection or address site specific, unique circumstances. Depending on site conditions, rutting standards may need to be more restrictive or more flexible. A detail of and justification for modifications must be documented in the *Temporary Revocable Permit, Request for Conceptual Approval* form, *Notice of Sale*, and stand prescription which should be kept on file in the Regional office.
7. If modifications are required after the operation begins, documentation showing detailed justification should be kept on file in the TRP or Sale folder kept at the Regional Office.

## **Standards:**

### **Public Forest Access Roads and Haul Roads**

Public Forest Access Roads (PFARs) are permanent, unpaved roads which may be designed for all-weather use depending upon their location, surfacing and drainage. These roads provide primary access for administration and public use within the State Forest. The design standards for these roads are those of Class A and Class B access roads as provided in the *Unpaved Forest Road Handbook (8/74)*.

Haul Roads (HRs) are permanent, unpaved roads which are not designed for all weather travel, but may have hardened or improved surfaces with artificial drainage. They are constructed according to best management practices primarily for the removal of forest products, providing limited access within the unit by log trucks and other heavy equipment. These roads may or may not be open for public motor vehicle use, depending on management priorities and objectives. They may serve as recreational access corridors, but are not maintained according to specific

standards or schedules.

1. Rutting should be avoided on public forest access roads and haul roads within a Special Management Zone. The DEC Division of Lands and Forests *Management Rules for Establishment of Special Management Zones on State Forests* will be adhered to when establishing new public forest access roads and haul roads.
2. A rut on a public forest access road and haul road may not result in channelized flow into a protection buffer, wetland, or water body.
3. A rut on a public forest access road and haul road should be avoided on slopes greater than 5% which may result in significant soil erosion during rain or snow melt events.
4. Other ruts may in some cases be acceptable on haul roads provided it is shown that they are not causing significant erosion, channelized mud or water flow, and will be repaired prior to final timber sale close-out or completion of TRP to the satisfaction of the Regional Forester or his designees. Ruts should also be smoothed out, with the installation of appropriate BMPs, if the Regional Forester or his designee knows work will be suspended for 14 or more consecutive calendar days or if it is known that a significant rain event may occur during off-hours.
5. Above and beyond the aforementioned standards no rutting should be allowed on public forest access roads that are open for public use unless they can be addressed within 24 hours of their creation. This standard is meant to minimize accessibility conflicts with the public who may use the public forest access road for recreational purposes.

### **Landings**

Landings are cleared areas in the forest, usually close to a PFAR or HR, to which logs are yarded or skidded for loading onto trucks for transport to mills. Landings are one of the most visible parts of any timber harvest and should be managed not only for efficiency and water quality protection but also to be aesthetically neat and well maintained. Investment in a well-placed and stable landing has short term benefits for increasing recreational opportunities after the operation is complete and long term benefits for future administrative use.

1. Landings are prohibited in wetlands. The DEC Division of Lands and Forests *Management Rules for Establishment of Special Management Zones on State Forests* will be adhered to when establishing new landings.
2. Rutting should be avoided on pre-existing landings within a Special Management Zone.
3. A rut on a landing may not result in channelized flow into a protection buffer, wetland or water body.
4. When ruts develop on landings they should be smoothed out to prevent pooling of water if it is known that work will be suspended for 14 or more consecutive calendar days or otherwise appropriate as determined by the Regional Forester or his designee.
5. Other ruts are acceptable provided it is shown that they are not causing significant erosion and will be repaired prior to final timber sale close-out or completion of TRP to the satisfaction of the Regional Forester or his designees.

### **Skid Trails**

Skid Trails are trails cut through the woods for accessing the harvest area and skidding or forwarding timber out of the forest to the landing. Skid trails are built to handle repetitive traffic from large, heavy and aggressive logging equipment. Well planned and laid out skid trail systems, utilizing appropriate BMPs, concentrate site disturbance and soil compaction to these limited corridors while protecting water quality and overall site productivity of the harvest area. These systems may become a permanent feature on the landscape and should be considered essentially removed from the production of timber. Similar to landings, skid trails have added benefits of increasing passive public recreational opportunities after the operation is complete

and assuring access for future administrative use.

1. Rutting should be avoided on skid trails within a Special Management Zone. The DEC Division of Lands and Forests *Management Rules for Establishment of Special Management Zones on State Forests* will be adhered to when establishing new skid trails.
2. A rut on a skid trail may not result in channelized flow into a protection buffer, wetland, or water body.
3. Ruts with depths of 18 inches or greater should not extend significantly along skid trails without implementing BMPs to minimize the potential for soil erosion from a rain event.
4. Other ruts may in some cases be acceptable provided it is shown that they are not causing significant erosion, channelized mud or water flow, and will be repaired prior to final timber sale close-out or completion of TRP to the satisfaction of the Regional Forester or his designees. Ruts should also be smoothed out, with the installation of appropriate BMPs, if the Regional Forester or his designee knows work will be suspended for 14 or more consecutive calendar days or if it is known that a significant rain event may occur during off-hours.

### **General Harvest Area**

The General Harvest Area includes the forested area where timber products have been marked for removal and sold to a timber harvesting (or logging) contractor. In some instances portions of a harvest area may include some type of forest management to improve site productivity (forest regeneration and growth), forest health (invasive plants, insects and disease control) or safety (fire control or recreation trail development) without the removal of any forest products.

1. Rutting in the general harvest area (excluding Special Management Zones) should be avoided to prevent significant impact to overall site productivity, root damage, disrupt surface drainage and infiltration, and contribute to sediment movement into protection buffers, wetlands, or water bodies as determined by the Regional Forester or his designees.

Figure 1  
Rut Cross-Section

