

Forest Trails and Landings (Acre) 655

13. Forest Roads – Controlling Sediment Movement and Transport During Rain Events

See:

http://www.michigan.gov/documents/dnr/IC4011_SustainableSoilAndWaterQualityPracticesOnForestLand268417_7.pdf

DEFINITION

A temporary or infrequently used route, path or cleared area.

PURPOSES

- Provide routes for temporary or infrequent travel by people or equipment for management activities.
- Provide periodic access for removal and collection of forest products.

Locate trails and landings to reduce adverse on-site and off-site impacts such as accelerated erosion, slope failure, water quality and riparian area degradation, stream channel and streambank damage, hydrologic modification, reduced aesthetics, unacceptable damage to advance regeneration or residual growing stock, or fragmentation of wildlife habitat.

Avoid locating trails and landings on poorly suited soils of low-bearing strength and sites such as wetlands, riparian areas, critical wildlife habitat, or other environmentally sensitive areas.

Locate trails on the contour to the greatest extent possible and incorporate breaks in grade (rolling dips or rolled grades) for trails on slopes.

CONDITIONS WHERE PRACTICE APPLIES

Trails and landings including skid trails are applicable on forest land. They typically connect to an Access Road (see Michigan NRCS Access Road (560) Conservation Practice Standard.)

Use the Michigan NRCS Recreation Trail and Walkway (568) Conservation Practice Standard if the primary use is to be for recreation.

Set back trails and landings from water bodies and water courses. Minimize stream crossings in size and number.

Assure safe ingress and egress from trails and landings to junctions with access roads. Refer to the Michigan NRCS Access Road (560) Conservation Practice Standard for travel-ways including logging spur roads needing construction design and possibly surfacing to accommodate frequent, intensive, or repeated vehicular traffic.

CRITERIA

Design trails and landings to be of a size, gradient, number and location to accomplish the intended purpose.

Meet or exceed the guidelines for trails and landings in the following sections of “Sustainable Soil and Water Quality Practices on Forest Land”:

- 6. Forest Roads*
- 7. Water Diversion Devices*
- 8. Stream Crossings*
- 9. Rutting and Related Issues*
- 10. Landings*
- 11. Skidding*
- 12. Wetland BMPs and Forest Roads*

Maintain trails and landings intended or anticipated for management activities in subsequent years to minimize the need for new trails and landings and associated site impacts.

Select equipment and schedule operations appropriate for site and soil conditions to maintain site productivity and minimize soil rutting, erosion, displacement and compaction.

Integrate drainage and erosion control measures, e.g., water bars, broad-based dips, and box culverts, with trails and landings to minimize detrimental effects of concentrated flow, erosion and sedimentation rates both during and after trail/landing use.

After use, restore and stabilize stream crossings. Refer to applicable drainage and erosion-sedimentation prediction technology and Michigan NRCS Conservation Practice Standards such as Critical Area Planting (342), Structure for Water Control (587), Stream Crossing (578) and Mulching (484) and guidance in “Sustainable Soil and Water Quality Practices on Forest Land.”

Dispose of concentrated surface water from landings, harvest trails, and loading areas in a non-erosive manner utilizing applicable Michigan NRCS Conservation Practice Standards such as Grassed Waterway (412), Grade Stabilization Structure (410), Diversion (362), Sediment Basin (350), and Water and Sediment Control Basin (638).

Ensure that slash, debris, and vegetative material left on the site after harvesting will not present an unacceptable fire or pest hazard or interfere with the intended purpose.

After use, revegetate trails and landings sufficiently to control erosion. If needed, use the Michigan NRCS Critical Area Planting (342) or Conservation Cover (327) Conservation Practice Standards for recommended seeding mixtures on steeply sloping trails, landings, and other areas where erosion control is a major concern (critical areas).

On areas where a seedbank of desirable native species exists, allow natural revegetation (succession) to occur to reduce future forest fragmentation and protect native species.

Comply with applicable state, federal, and local laws and regulations governing forest trail and landing establishment.

CONSIDERATIONS

Consider impacts to wildlife from increased fragmentation of the forest stand. Creation of openings can benefit some wildlife species, e.g., early successional and edge species, yet be detrimental to others, e.g., forest interior species.

Trails and landings, particularly after usage, may be utilized and managed for wildlife food and cover plantings. Refer to appropriate Michigan NRCS Conservation Practice Standards, e.g., Upland Wildlife Habitat Management (645), and Early

Successional Habitat Development/ Management (647).

Consider using and managing appropriately located and constructed trails and landings as firebreaks.

Use native species for revegetating trails and landings, if possible.

Place slash, debris, and rocks a minimum of four feet from the edge of all landings and harvest trails, and pile such material to a height not to exceed four feet.

Locate landings and trails to preserve the aesthetic quality.

Locate landings and trails a minimum of 100 feet from riparian areas if feasible.

During construction, stockpile all topsoil and re-spread after final grading to maintain natural fertility and promote re-growth of native vegetation.

Discontinue hauling and harvesting operations when rutting exceeds 6 inches in depth.

Regularly inspect landings and trails to remove refuse and garbage. Report lubricant, solvent, and fuel spills to Michigan Department of Natural Resources and Environment Pollution Emergency Alerting System Hotline: 1-800-292-4706.

Close trails as needed for erosion control, safety and liability, and to reduce maintenance costs. Refer to the Michigan NRCS Road/Trail/Landing Closure and Treatment (655) Conservation Practice Standard.

Consider using forest trails and landings secondarily for other purposes, e.g., recreation wildlife food and cover plantings, provided it does not compromise the purpose of the practice.

PLANS AND SPECIFICATIONS

Specifications for applying this practice shall be prepared for each site and recorded using the Michigan NRCS Forest Trails and Landings (655) Conservation Design Sheet, narrative statements in the conservation plan, or other acceptable documentation.

Minimum documentation required for this practice includes:

- *Site map, preferably with topographic information, showing location(s) of trails, landings, and stream crossings.*
- *Location and/or spacing (on site map or described in plan) of structural erosion control measures, and other required treatments.*
- *Detailed design information, including standard drawings, for all erosion control measures, stream crossings, cuts and fills, and other earthwork, structures, etc.*
- *Length, width, and slope of trails or trail segments and landings.*
- *Location of buffer zones for streams, special areas and other sensitive areas that need protection.*
- *Specifications for operation during wet or dry weather periods to avoid soil erosion, compaction, and potential fires.*
- *Location or description of sites needing seeding.*
- *Species, rates, and planting information for any areas that require seeding.*

OPERATION AND MAINTENANCE

Conduct regular and timely inspections for adverse effects. Perform maintenance or repairs as needed.

Maintain trails and landings utilized and managed as firebreaks to accomplish this purpose while maintaining acceptable mitigation of other concerns.

Control access to trails and landings when and where needed for erosion abatement, safety and liability, and reduced maintenance costs. Refer to the Michigan NRCS Access Control (472) Conservation Practice Standard, as needed.

Consider decommissioning trails and landings no longer needed. Refer to the Michigan NRCS Road/Trail/Landing Closure and Treatment (654) Conservation Practice Standard, as needed.

Protect watercourses and water quality during and after removal and transport of trees. Remove

temporary bridges in a timely manner and stabilize channels and banks as needed. See Michigan NRCS Stream and Shoreline Protection (580), and Stream Channel Stabilization (584) Conservation Practice Standards, as needed.

Upon completion of harvest, leave all loading areas, landings, and trails in a stable, vegetated condition.

REFERENCES

Garland, John J. 1983. Designated Skid Trails Minimize Soil Compaction. Woodland Workbook, Oregon State University Extension Service, EC1110. OSU. Corvallis, OR.

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University of Minnesota. 1998. Broad-Based Dips. Forest Management Practices Fact Sheet #6, Managing Water Series. Regents of the University of Minnesota. MN.

<http://www.extension.umn.edu/distribution/naturalresources/DD6975.html>

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