

# Heavy Equipment Policy for Wildland Fire Suppression

Department of Natural Resources

Division of Mining, Land and Water  
Division of Parks and Outdoor Recreation  
Division of Forestry

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The Department of Natural Resources recognizes that the use of heavy equipment for fire suppression on wildland fires is a valuable tool for the protection of life, property, and irreplaceable or high value resources. However, the use of heavy equipment during fire suppression actions has the potential to result in long-term damage to the environment as well as influence the future use of an area once fire suppression actions have been completed. Budget and personnel constraints limit the land manager's ability to effectively manage post-fire issues such as increased access, user conflicts and long term post-rehabilitation issues including erosion or thawing of the permafrost.

The intended purpose of fire line construction is to achieve fire suppression objectives rather than the creation of public access. Fire lines are rarely constructed in the best location or manner for developing a long-term sustainable access route relative to soils, topography, grade, and location.

It is the Department of Natural Resources' policy that no Off Highway Vehicles (OHV's) over 1500 pounds such as bulldozers, skidders, Nodwells or other heavy equipment shall be used for fire line work on State of Alaska managed lands without prior documented approval from the land manager. Land management plans or the management intent for specific state lands may limit the use of heavy equipment. Approval of use is to be via the Wildland Fire Situation Analysis (WFSA) process and be based on a thorough analysis of the risk to life, property or significant values at risk.

During initial or extended attack, when immediate action is necessary to prevent the loss of life or significant values, the Fire Management Officer (FMO) or Incident Commander (IC) may approve tactical use of available heavy equipment on an individual case-by-case basis. As soon as possible following the action requiring use of heavy equipment, the suppression agency must secure Land Manager approval for continued use and document it on the fire notification form.

Once land manager approval is obtained, the suppression techniques utilized should be those which cause the least surface and vegetation disturbance while providing the most cost effective control and extinguishment of the wildfire. Fire intensity, fuels, time of year and day, topography, weather, or other management prescriptions may limit or dictate the suppression method used to control a fire.

Fire suppression actions should be undertaken with the understanding that all fire lines will be rehabilitated. A fire line rehabilitation plan will be prepared by DOF and implemented as a normal function of suppression. The plan requires approval of the land manager. The land manager will analyze the fire suppression action's impact on future land management options and the management intent of the area to determine

the level of rehabilitation necessary. Unless directed otherwise by the land manager, rehabilitation goals, shall at a minimum, include the following:

- Preventing, to the extent practicable, sedimentation and lateral erosion by stabilizing the surface.
- Preventing, to the extent practicable, vertical thermal erosion.
- Stabilize and revegetate emphasizing the natural revegetation of sites through restoration techniques.

General guidelines for building fire lines with heavy equipment:

Use natural barriers as lines where possible. If it is necessary to build lines along rivers, locate lines along uphill sides of better drained soils.

Fire line width must be strictly controlled. In many circumstances, an adequate fire line is 1.5 times as wide as the height of the tallest tree with a minimum width cut to mineral soil.

Typical fire line building equipment is a dozer or an excavator. Fire personnel should consider alternative equipment such as mulchers and hydro-axes for constructing fire lines. Alternative equipment can be used in combination with dozers or excavators to prepare a fire line to mineral soil.

Walk-down trees within the fire line whenever possible.

Tracked equipment should be operated only on established lines, preferably in the "walked-down" portion.

When constructing fire lines, dozer bosses and operators shall balance the competing objectives of minimizing the impact of the fire on the environment and constructing a fire line that will provide the appropriate level of fire suppression effort required for the specific situation.

Many fire line scars in Alaska occur due to choice of fire line location. The Incident Commander should use the best qualified expertise available in fire behavior, fire spread, fire weather forecasting, and soil/watershed specialists to determine the most effective fire line location.

To minimize the impact of the fire line on future land management issues, the land manager should be consulted when making tactical decisions on fire line location.

Erosion control guidelines:

Avoid building fire lines in ice-rich permafrost areas such as north slopes or drainage bottoms where the organic mat is more than 12 inches deep. Dry ridge tops, south slopes, and stony soils are preferred over others the areas for fire line construction.

Where fire lines have been constructed in ice-rich or permafrost areas, insulation shall be reestablished as soon as possible.

Avoid building fire lines on gradients sufficient for inducing erosion.

Avoid creating an erosion "chute" into natural drainage ways; eg. fire lines should have dogleg or be stopped 300 feet from drainages, rivers or lake shores.

Construct cross-drainage structures as required to direct water into undisturbed areas. Construction of cross-drainage should be an integral part of fire line construction.

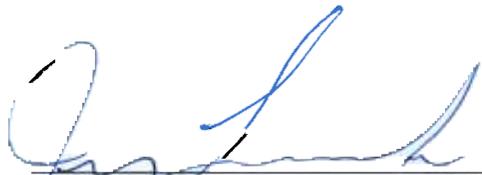
Prior existing trail guidelines:

- As an aid to rehabilitation and prior to fire line construction on an existing trail, photographs of the trail should be taken at sufficient locations along their length to adequately document the pre-fire condition.
- Avoid using existing trails for fire lines. When an existing trail is in the vicinity of a proposed fire line, offset the fire line from the existing trail leaving an undisturbed buffer wherever feasible. This technique will help decrease land management conflicts by leaving the existing trail intact and constructing the fire line adjacent to the trail.

Guidelines for Off Highway Travel:

- The use of OHV's less than 1500 pounds does not require prior approval.
- To preclude or minimize damage to the vegetative mat, travel should be limited to single passes where possible. If multiple passes must be made and damage to the vegetative mat is inevitable, travel should be concentrated into a single track.

To minimize damage to the vegetative mat, equipment should not be turned sharply, speeds shall be moderate, and exposed mineral soils or permafrost should be avoided.

  
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4/11/06  
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