Inoperable Areas

Definition

Inoperable areas are designated based on geographic landscape constraints, site specific forest characteristics, current harvest practices and techniques along with consideration of current and expected future market conditions. Multiple factors are evaluated to determine the short to long-term feasibility of successful forest management occurring on these sites.

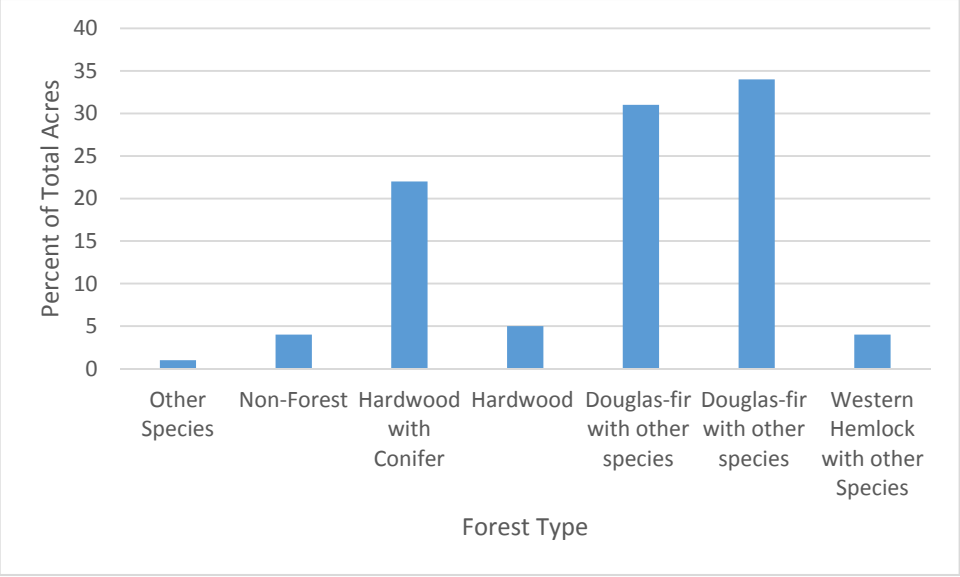
The Division has identified approximately eight percent of the area covered by the Northwest Oregon State Forest Management Plan as inoperable because there is no economically feasible way to harvest it using current practices and techniques. The areas range in size from 1 to 2,700 acres with an average size of 33 acres. The smaller areas are typically composed of rock outcrops, active landslides, permanent meadows, and ponds and are generally located between harvest units[1]. The large areas are composed of all forests types as summarized in Figures 1 and 2.

Inoperable Area Characteristics

Figure 1 shows the primary species of the stands that occur on the inoperable areas. Most of the stands are primarily Douglas-fir or Douglas-fir mixed with other species, while a quarter of the stands are primarily hardwood (usually red alder) or hardwood mixed with conifer. Only four percent of the stands are shown as non-forests. However, many stands have numerous inclusions of rock outcrops that are too small to map or consist of scattered trees over rock.

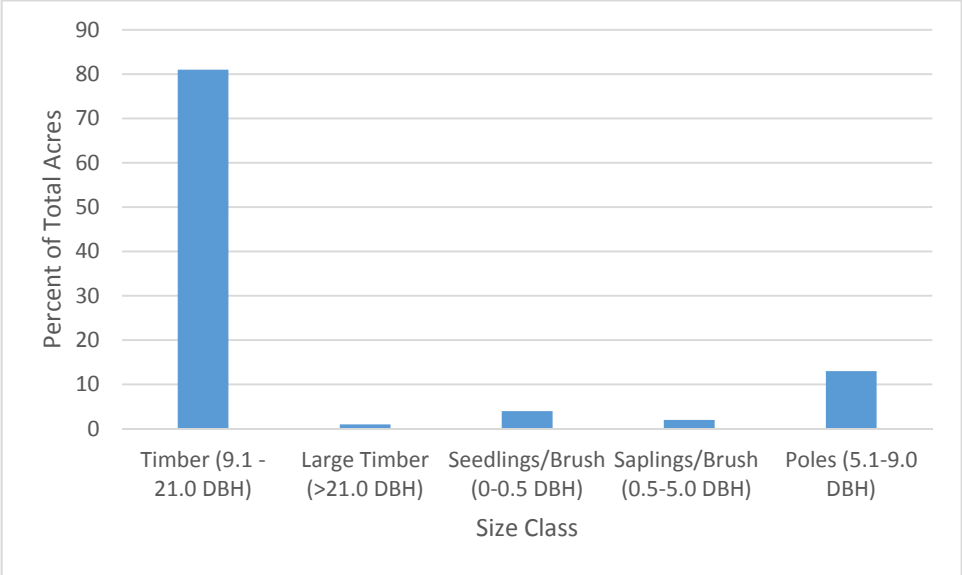
Figure 2 shows the size class of the stands on the inoperable areas. The majority of the stands (81%) are in the saw timber size class (9 to 21 inches DBH), which is likely related to the Tillamook Burn. Only a very small portion of these stands are comprised of large timber (only one percent of the stands have an average diameter greater than 21 inches DBH).

Figure 1. Forest Stand Types on Inoperable Areas



[1] Some of the operable harvest units have inclusions of inoperable areas of a single site up to five acres or multiple small sites up to 20 percent of the unit.

Figure 2. Size Class of Forest on Inoperable Areas.



Identification of Inoperable Areas

These inoperable areas were identified in the "Harvest and Habitat Model Project[2]" to identify feasible harvest units and a potential transportation system for the planning area. The identification of harvest units and the associated transportation system on 615,000 acres was contracted with Logging Engineering International. The primary goal of developing the harvest unit GIS layer was to allow a harvest model to reflect operational considerations, costs, and constraints such as sites that can't be logged regardless of forest management strategies. The secondary goal of developing a transportation GIS layer was to identify operational constraints (ensure that roads could be built to the harvest units) and costs (road construction, road maintenance, and log hauling).

These harvest units were used to model a number of management scenarios over a long planning horizon (150 years). Consideration was given to topography, permanent physical features (e.g. power lines, lakes), the technical limitations of available logging equipment, and the ability to build the necessary roads to access the harvest units. Significant on-the-ground field review of the results incorporated local knowledge of the forest along with working knowledge of all current forest resource management strategies. This thorough long-term planning analysis on the feasibility of access and logging systems resulted in minimizing the amount of inoperable areas; the resulting inoperable areas in the final product consist of those areas where an economically feasible harvest unit and/or road could not be identified.

[2] "Harvest and Habitat Model Project Final Report" presented to the Board of Forestry on March 8, 2006.