ENHANCING FOREST ROAD TRAFFICABILITY
UNDER FREEZE-THAW CONDITIONS

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ABSTRACT.—Low volume, temporary roads are the heart of the forest transportation network. These roads provide access to forest land for management purposes as well as for recreational uses. In northern areas these roads experience seasonal freeze-thaw cycles which curtail use. Wood chips and chunks have been successfully used as a subcourse in low volume roads, stabilizing problem areas and allowing road construction through bogs and sugar sand. The use of wood chips and chunks may also insulate against freezing and the subsequent spring thaw weakening, thus extending road use. The insulating effect of chunkwood when used as a road subcourse is being investigated in a study being conducted by the USDA Forest Service, North Central Research Station, and the U.S. Army, Cold Regions Research and Engineering Laboratory. A test road was constructed using layers of chunkwood one, two and three feet thick were placed under a sheet of geotextile and six inches of gravel. Soil temperatures down to eight feet below grade and road surface heaving are being monitored.

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