AN INITIAL INVESTIGATION INTO A HARVESTING OPERATION REQUIRING HELICOPTER EXTRACTION OF TIMBER

Where results are stated they must be treated as interim and subject to further work and review.

Further information on any of the topics shown can be obtained from the individuals associated with the individual projects.

BACKGROUND

Helicopter logging has been carried out successfully for a number of years in Europe, North America and in the Southern Hemisphere. For background, information has been obtained from these countries identifying techniques, methods and equipment that could be appropriate for helicopter extraction in the UK.

TRIAL SITE

The trial site and crop was the unfelled remnants of a previous cableway extracted clearfell operation. The crop was located on an upper slope above Loch Lubnaig. The standing crop consisted of large P47, unthinned Sitka spruce (average 0.70 m^3) which was growing on a shallow gley soil.

FELLING OPERATION

Overall the site was very steep (up to 89%) with vertical rock faces and steep sided water courses and was considered extremely difficult to conventionally fell and extract. The trees could only be worked safely using a contour felling method. Critical planning of the felling direction and felling faces was required to ensure that a safe and risk free operation was carried out.

HELICOPTER EXTRACTION

Average flying speed may increase for larger distances between loading site and unloading sites as the helicopter can fly longer distances at higher speeds. Therefore outputs for helicopter extraction may not be so dependent upon extraction distance as conventional extraction methods.

All personnel involved in helicopter operations should be made aware of the contents of the Civil Aviation Authority (CAA) publication CAP 426, *Helicopter External Load Operations*. Overall management, control and safety of the extraction system is by the helicopter pilot.

Discussions with the helicopter pilot indicated that it is desirable to have the operators who felled the trees to carry out the chokering of the timber during the extraction as they will be familiar with the terrain conditions and the product presentation. The operators should also be fully trained and aware of the working method, control signals and safety when working with helicopters.

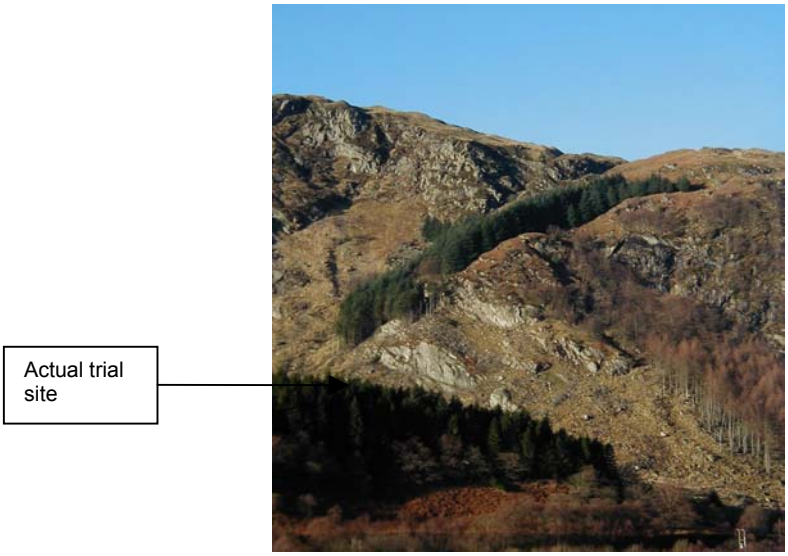
The pilot should give instruction to all personnel on operational efficiency, working methods, communication systems, health and safety issues, risk assessments and emergency procedures before extraction starts.

Site planning and presentation of the timber is important to maintain an effective extraction system with little or no delays to the helicopter. The landing sites should be clearly identified, free from any potential hazards and where necessary the pilot should be consulted to determine any additional constraints or requirements.

The helicopter used during the trial was a SA135B Lama, which had a maximum load carrying capacity of 1 tonne complete with a lifting and chokering system.

In addition to the helicopter three two-man teams were involved in the extraction operation, two choker teams were located at the extraction site and one team at the landing site. The teams were made up of the tag line operator and the choker/unchokerman man.

The Trial Site



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