

## GENERAL INFORMATION

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<b>supervisor</b>	Verheyen K
<b>institution</b>	Ghent University, Faculty of Bioscience engineering, Laboratory of Forestry
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## MATERIALS & METHODS

<b>study area</b>	Aelmoeseneie: 5d, 5e, 5i, 5z
<b>time period</b>	Aelmoeseneie: 2008
<b>goal</b>	Investigate the financial, ecological, and production consequences of forest harvesting of large hardwood, for different methods and harvest conditions.
<b>set-up</b>	terrain visits at harvests with or without permanent skid trails, with or without a winch: <ul style="list-style-type: none"><li>- finished harvests (9, among which the Aelmoeseneie forest)</li><li>- detailed monitoring of entire harvest operations (3)</li><li>- discussions on the terrain with operators and managers (6)</li></ul>
<b>data collection</b>	finished harvests: <ul style="list-style-type: none"><li>- direct costs: variable and fixed, = operator's expenses</li><li>- indirect costs: impact on soil and future wood production, = manager's expenses, visible on the long term</li></ul> soil impact: area on which machines have passed wood production: dbh and height of damaged trees (damaged bark, tree base or broken branches)
<b>remarks</b>	

## RESULTS

### Direct/indirect costs

Costs of labour form 60-75 % of the total direct costs. Sustainable harvest techniques bring about an increase in the direct costs. Fixed costs lie between 68 and 134 euro/day. The production damage is limited, but the soil impact can be high (more than half of the area can be used by the machines). Soil compaction costs cannot be passed on to the operator.

### Permanent skid trails

To decrease soil impact the machine passes can be limited to permanent skid trails. The area used for machine traffic can be reduced to 5-16 % by using permanent skid trails. Communication, preparation, harvest plan, and indication of the trails in the forest are vital. The position of the skid trails should be well contemplated as they will stay in the forest permanently; participation of the operators is desirable at the

planning stage. Supervision of the harvest activities is important. Direct costs are higher for a harvest with permanent skid trails, because the harvest will take longer.

#### Machinery

The use of a winch can be limited by using a crane (different types, with or without skidder can be used). Forwarders are not favoured by operators nor forest managers because of the high costs and high damage. Synthetic cables are not trusted by the operators. Yet, they can be useful in many situations.

#### Wood sale

Operators prefer spatial demarcation of the wood lots and longer harvest periods. Periods during which harvest is not allowed (e.g., because of brooding birds) are not accepted by most operators. Operators like spring sales. Communication is often a problem. Harvest of the crown wood is difficult.