Indicator-Based Assessment of Trafficability of Forest Roads in Europe

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Objective

- To assess forest roads trafficability and the extent of required forest road class upgrades on a Pan-European scale.

Material and Methods

- Existing forest road construction standards were analysed.
- Based on this, a nearly universally applicable approach was developed (Fig. 1).
- A pilot case study was conducted in Austria, Germany and Poland.
- Road bearing capacity was assessed with a portable light weight deflectometer.

Highlights

- Measured roads bearing capacity varied highly and showed seasonal changes.
- Under unfavourable seasonal conditions, 83% of the measured points showed an $E_{vd}$ below 40 MN/m². This ratio decreased under favourable conditions to 34% (Fig. 2).

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Fig. 1: Visually evaluated & measured parameters used for the universally applicable assessment of forest roads.

Fig. 2: Measured $E_{vd}$ at the case studies during favourable and unfavourable seasonal conditions with threshold for full access 40 MN/m² (solid line) and the means of $E_{vd}$ (dashed line).