

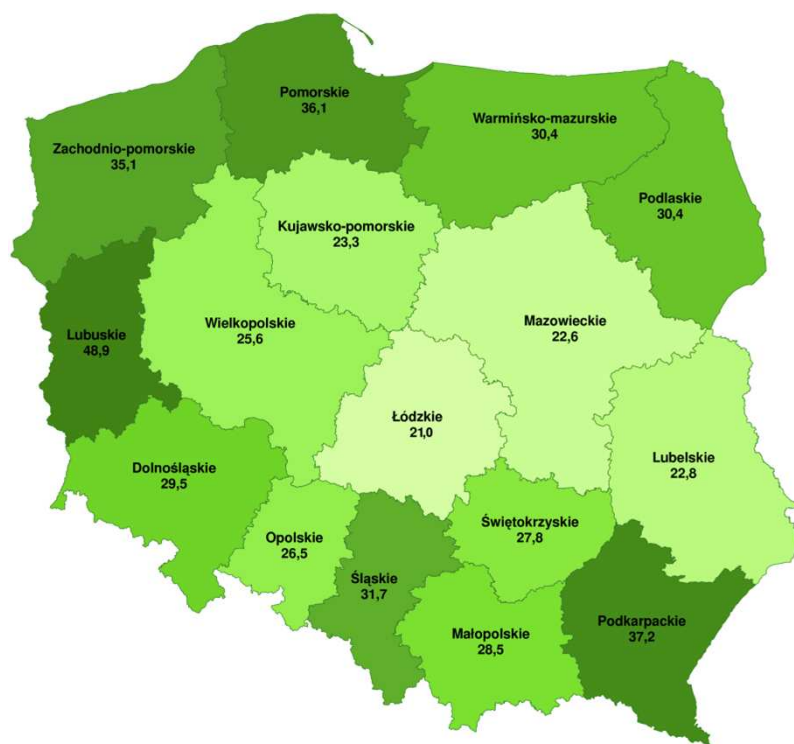
Timber measurement in Poland

Krzysztof Jodłowski
*Forest Research Institute
Poland*

ETMM 2011, Uppsala, Sweden, 6-9 September 2011

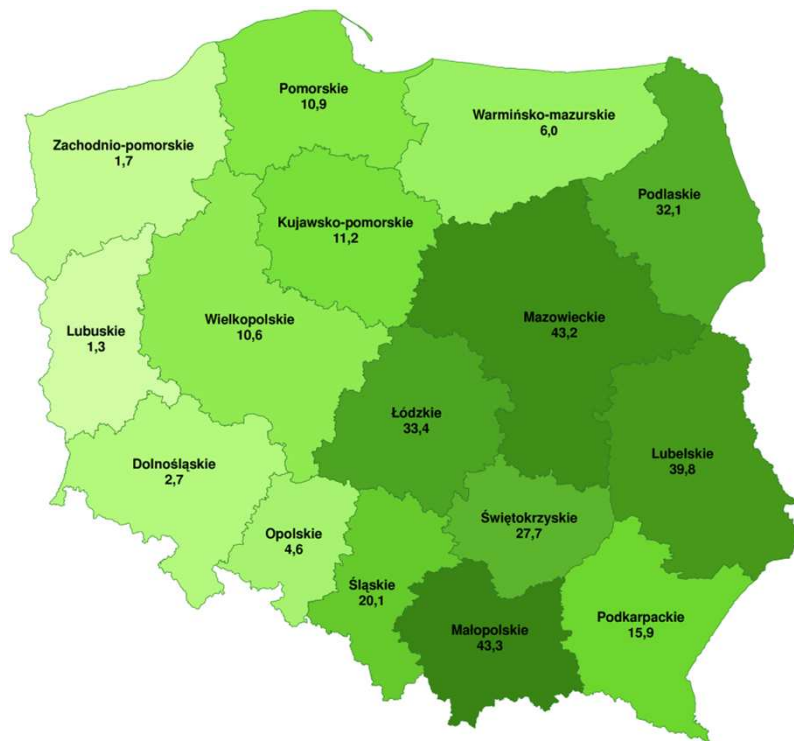


Forests in Poland



- 9 M ha
 - State Forests - 7.3 M ha (81.1%)
 - Private forests - 1.6 M ha (17.8%)
 - Others - 0.1 M ha (1.1%)
- Coniferus – 70.8 %
- Growing stock
 - State Forests (2009): 245 m³/ha (NFI – 262 m³/ha)
 - Private forest (1999): 119 m³/ha (NFI – 213 m³/ha)

Distribution of private forests in Poland by province



- Number of owners: ~900k
- Average area of private forest: 1.2 ha

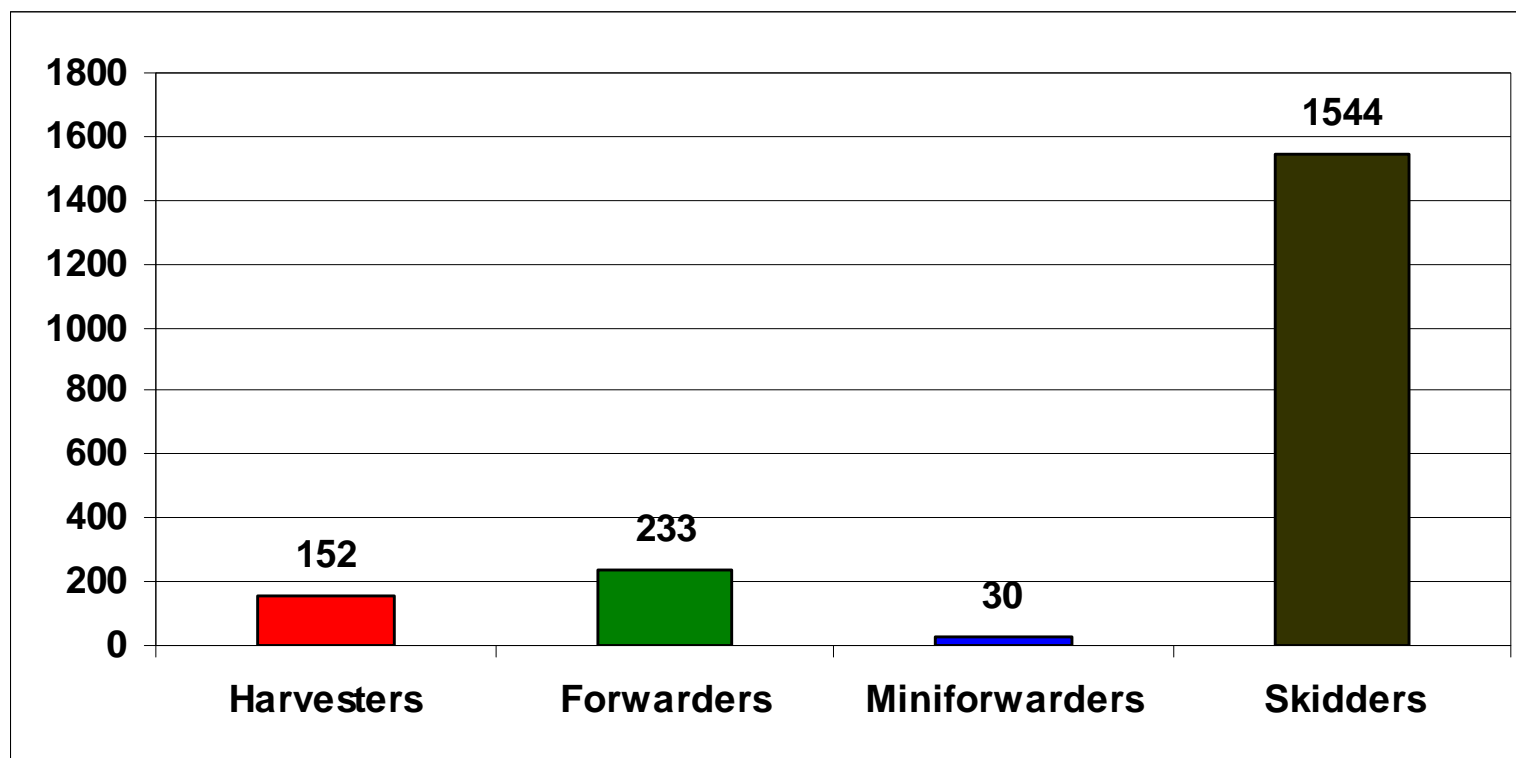
Annual harvest (2009)

- Total - 34.6 M m³
 - 33.1 M m³ – State Forests (94.7%)
 - 1.1 M m³ – private forests (3.6%)
 - 0.4 M ha – others (1.7%)

Who performs harvest operations?

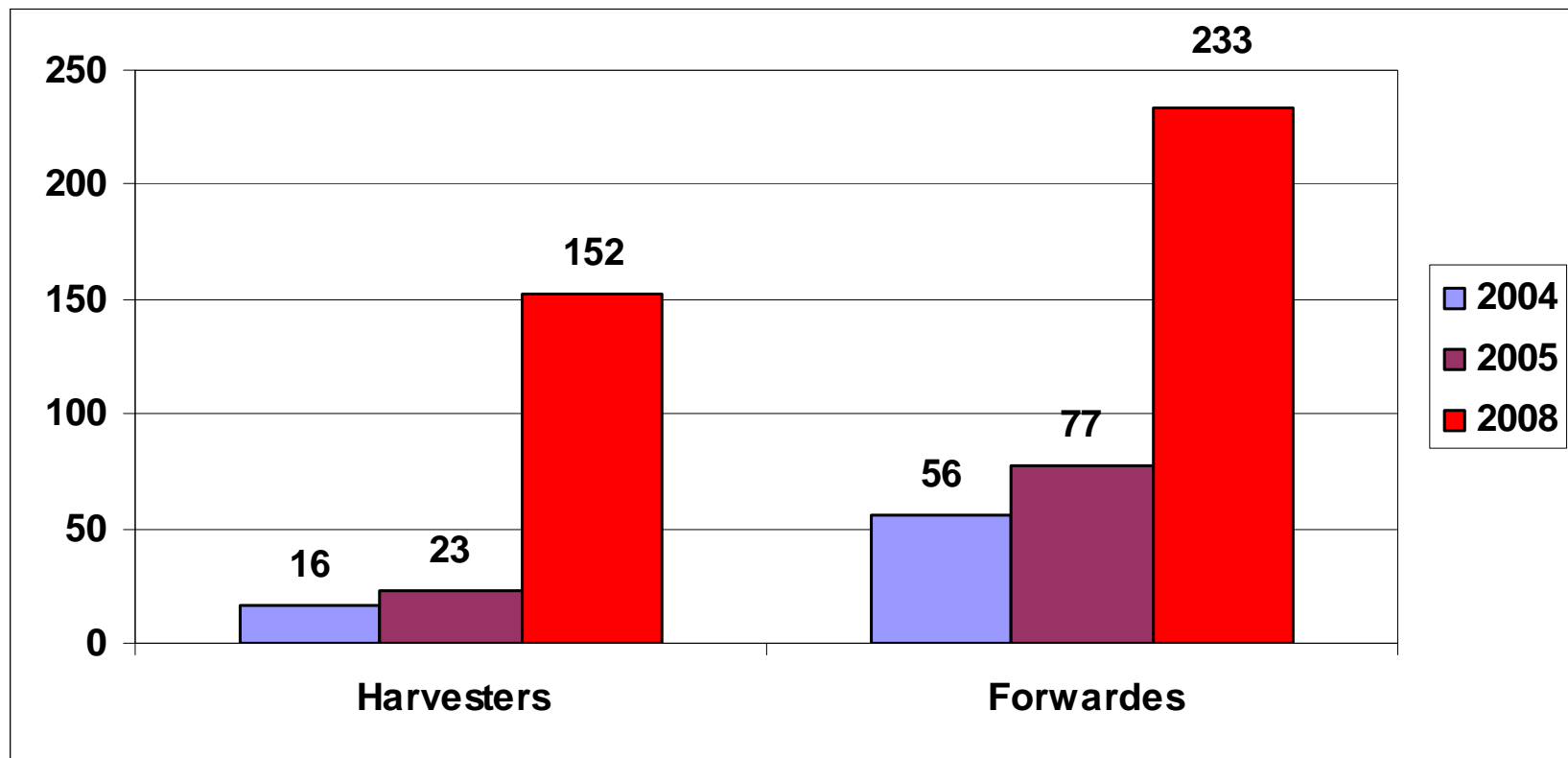
- State Forests – forestry contractors (over 95% of annual harvest)
- Private forests – the owners (mainly) .

Number of purpose-built forestry machines in Poland (31.03.2008)



[Source: General Directorate of State Forests]

Number of purpose-built forestry machines in Poland – dynamic



[Source: General Directorate of State Forests]

Number of purpose-built forestry machines in Poland – dynamic

But still the share of fully mechanized harvesting is at the level of 5-8%

Harvesting methods

Harvesting methods (estimation):

- Long-wood system – 60%
- CTL – 30%
- Tree length – 10%

Wood industry

Sawmilling industry – weak and dispersed
(over 3000 entities)

Pulp&paper and wood based panels
industries – concentrated and modern

Timber measurement background

- No timber measurement council
- No any association dealing with timber measurement
- No measurement units even mobile
- Timber is manually measured on forest road side; result of measurement is a base for contract with timber buyer

Standards on timber measurement and grading

- Polish Standards established by Polish Committee for Standardization
- Technical requirements on round timber (*result of co-operation of State Forests National Holding and wood industry*) – play crucial role in quality-dimensional classification of round timber

How does it work in practice in State Forests (1)

- 1° Step:** planning harvesting activities for the oncoming year basing on pre-harvest assessments (grading of standing timber)
- 2° Step:** elaborating of annual wood harvesting plan
- 3° Step :** announcing the timber auctions

Procedures of selling timber in 2011

- Internet auctions:
 1. Wood Portal (limited auctions) – 55% of total amount of timber, arranged twice a year
 2. Systemic auction in „e-drewno” application (open auction) – 45% of total amount of timber, arranged twice a year
 3. Standard „e-drewno”
- Special auctions and submissions (for valuable timber – e.g. veneer logs)
- Direct negotiations
- The retails sail

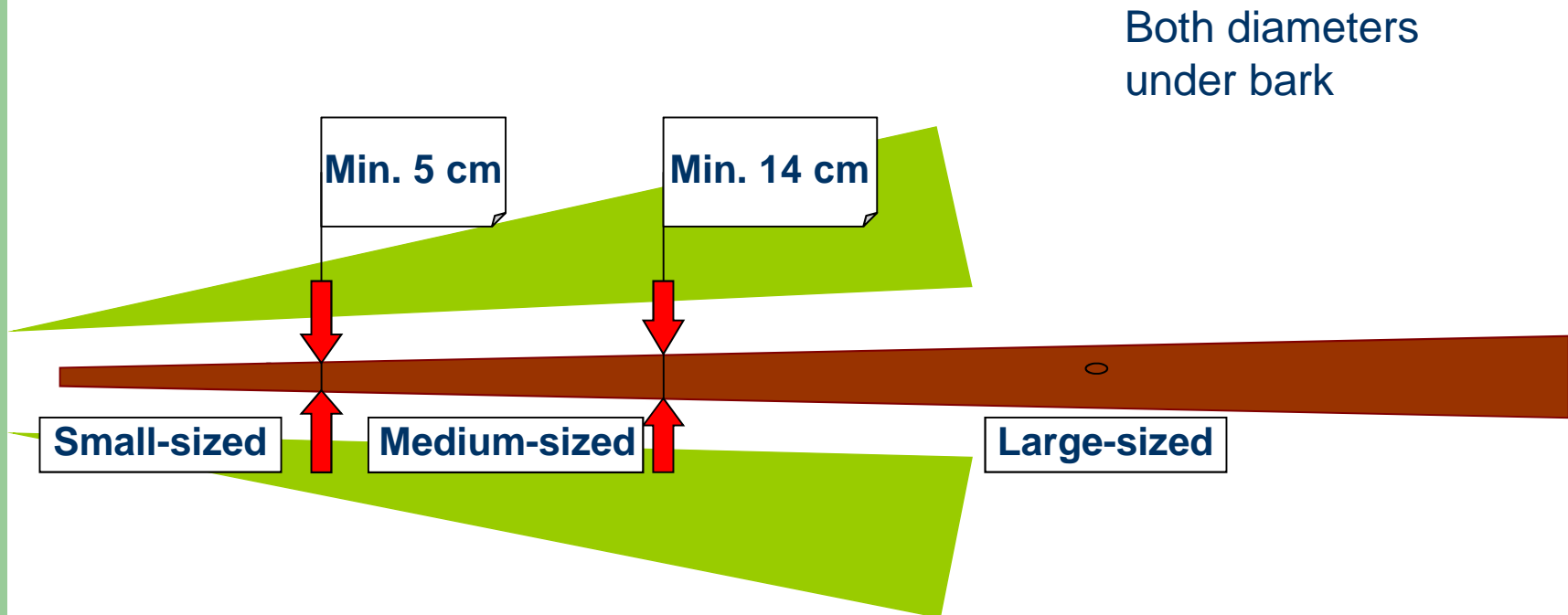
How does it work in practice in State Forests (2)

4° Step: signing contract with the customer

5° Step: harvest and extraction operations

6° Step: measurement and recording of timber volume; all volumes are calculated under bark.

Timber measurement – dimensional classification



Timber measurement

Large-sized timber:

1. Long wood system („unlimited” length), piece by piece measurement: length and mid-diameter; diameter measured under bark (with bark removed or using bark reduction table).
Diameter rounded according to mathematical rules.
Length measured with 1% excess.
2. CTL – piece by piece measurement (length and top diameter), volume of log calculated using tapering coefficient. Top diameter measured in the narrowest place and rounded down to full centimeters. Length measured with the excess up to 0.1.

Timber measurement

- Four quality grades for large-sized timber: A, B, C and D
- **Medium- and small-sized wood:** – measurement of pile' dimensions (or on the truck), volume calculated using conversion factors
- **Chips:** loose volume determined in container then conversion into a solid wood using coefficient.

How does it work in practice in State Forests (3)

7° Step: informing customer on pile(s) location

8° Step: issuing transport documents

9° Step: claim procedure (if applicable)

Timber measurement at sawmill

Timber measurement at sawmills is used only for production purposes (bucking/sawing optimization) and to compare with measurements done on the forest road-side.

Medium sized sawmills use optical instruments, 1D or 2D (e.g. old REMA devices), while the most modern are equipped with 3D laser scanners (e.g. MICROTEC, Jörg Elektronik).



Thank you!