

Monitoring and Reporting on Sinks: Polish experience



**Republic of Poland
Ministry of the Environment**

Contents

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 - **Sequestration enhancement**
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Forests in Poland

Area

→ **9 million ha**
(30% of land area)

Growing stock

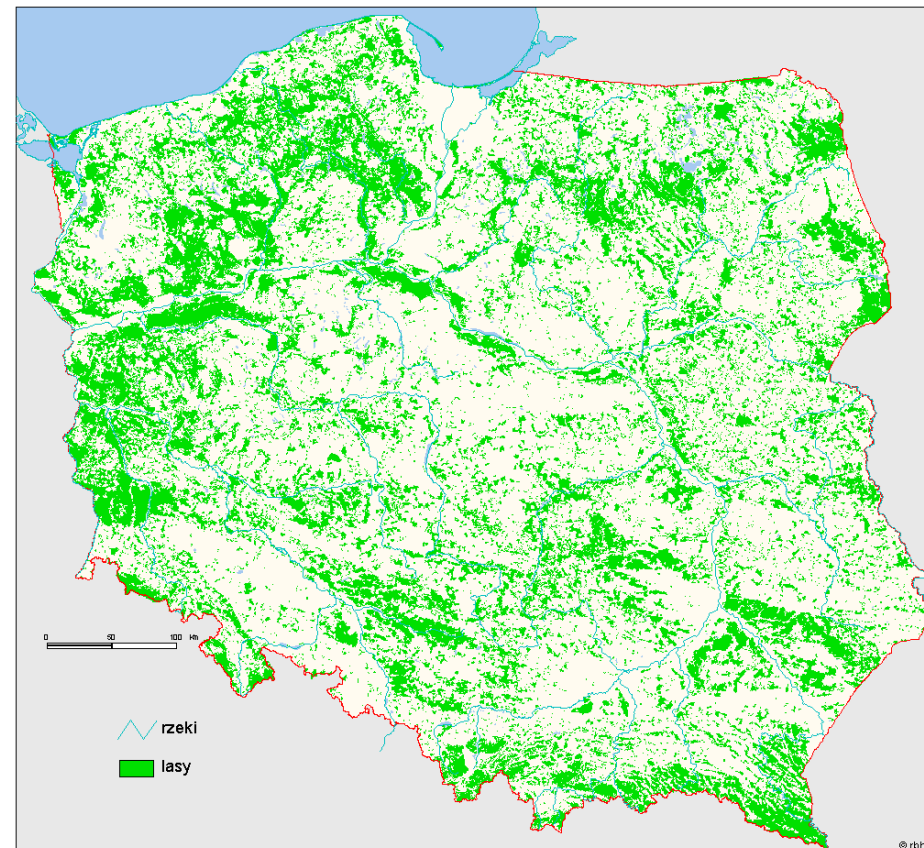
→ **1,9 billion m³**

Forests' contribution to the net
emissions reductions 1990-2005

→ **~ 330 mio tonnes**

Kyoto target for the 1st CP

→ **app. 170 mio tonnes**



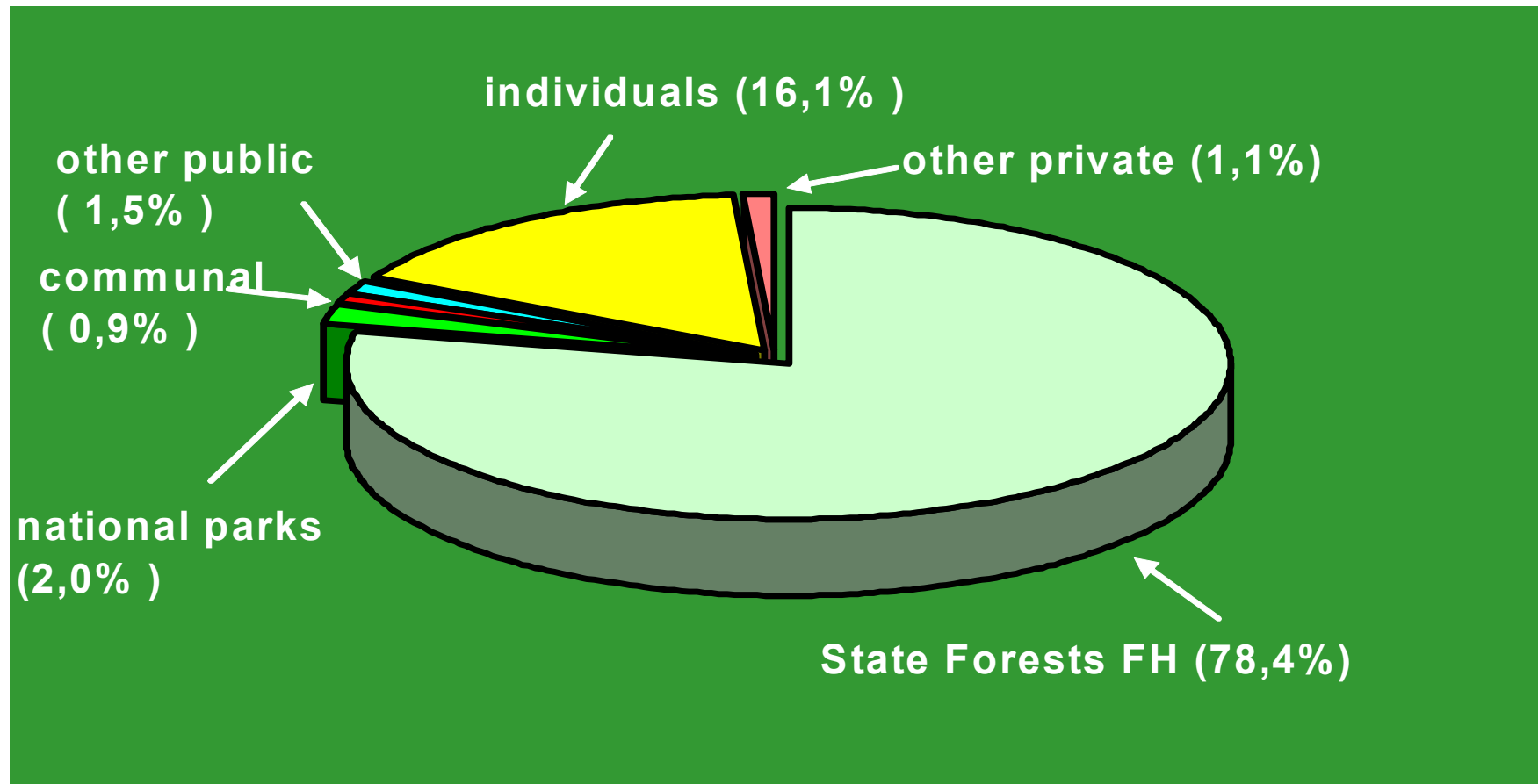
KP implementation

Poland, as a party to the Protocol:

- is obliged to report on Art. 3.3
- choose FM as the additional activity on Art. 3.4

National legislation has been developed in order to enable participation of forestry entities in KP mechanisms

Forest ownership structure



National legislation

Two types of participation in national mechanisms:

- mandatory (state forest holdings)
- voluntary (private holdings)
 - minimal area is 300 ha, associations allowed

Submission of a sequestration plan is a precondition of participation in national system

Sequestration plan should include:

- a list of activities envisaged to enhance CO₂ removal,
- their (activities) expected outcome

Activities enhancing carbon sequestration

- **Increase of forest area**
- **Stock utilisation planning**
- **Forest fire prevention and management**
- **Forest biodiversity and vitality enhancement**

Activities enhancing carbon sequestration

Increase of forest area

1.2 million ha

- afforested from 1945 to 1995

780 thousand ha

- planned for afforestation in 1995-2020



Activities enhancing carbon sequestration

Stock utilisation planning

1990-2005

increment

→ **832 million m³**

fellings

→ **429 million m³**

→ **52% of increment**



Activities enhancing carbon sequestration

Forest biodiversity and vitality enhancement

Share of broadleaved

1945 → 13%

2005 → 24%

Introduction of under- storey vegetation

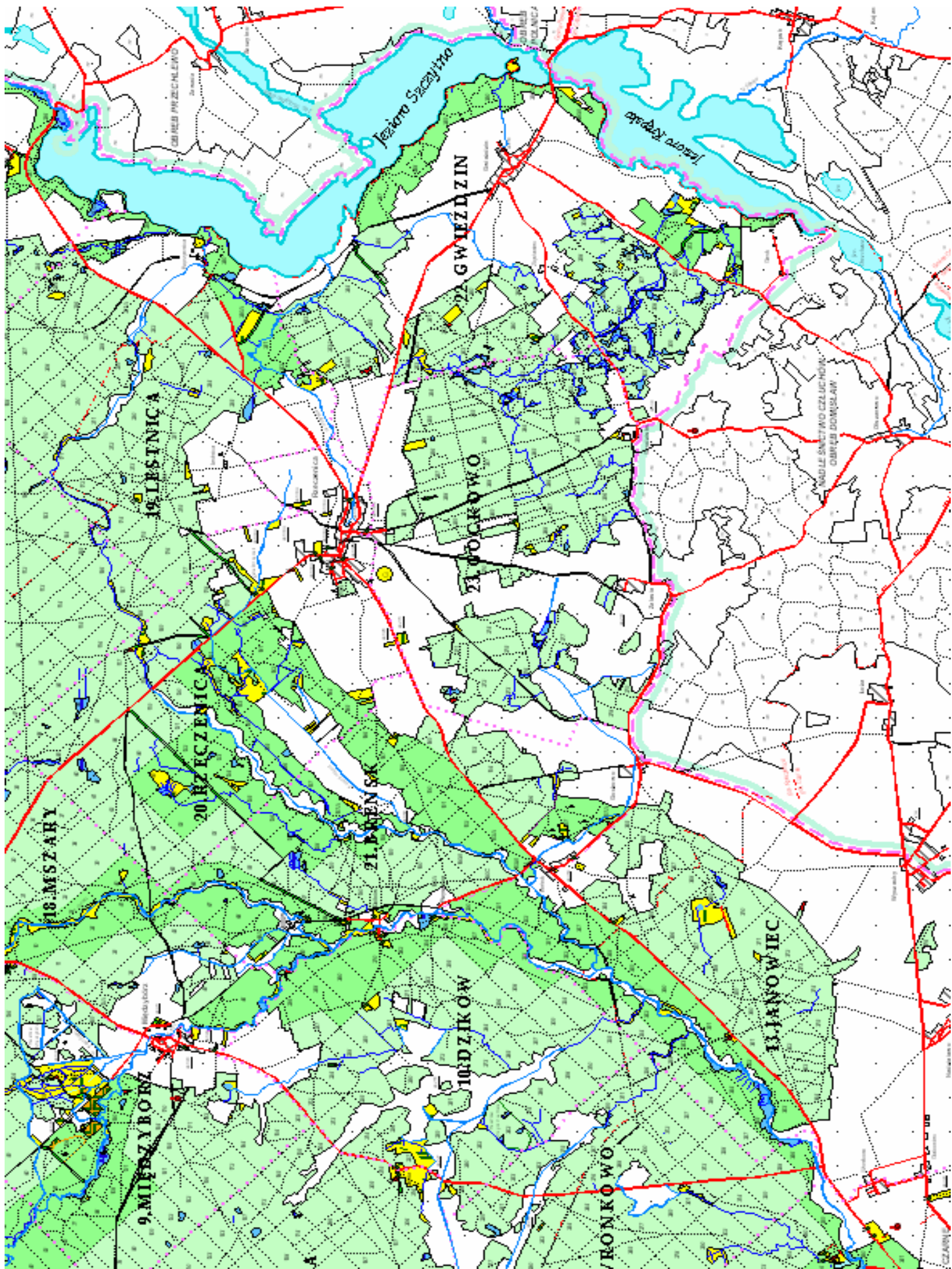
1990 - 2005

→ 200 thou. ha



Monitoring

- **stand and holding level inventory**
- **regional and national level inventories**
- **research plot networks**



Stand and district level inventory

**District level (~430)
information system**

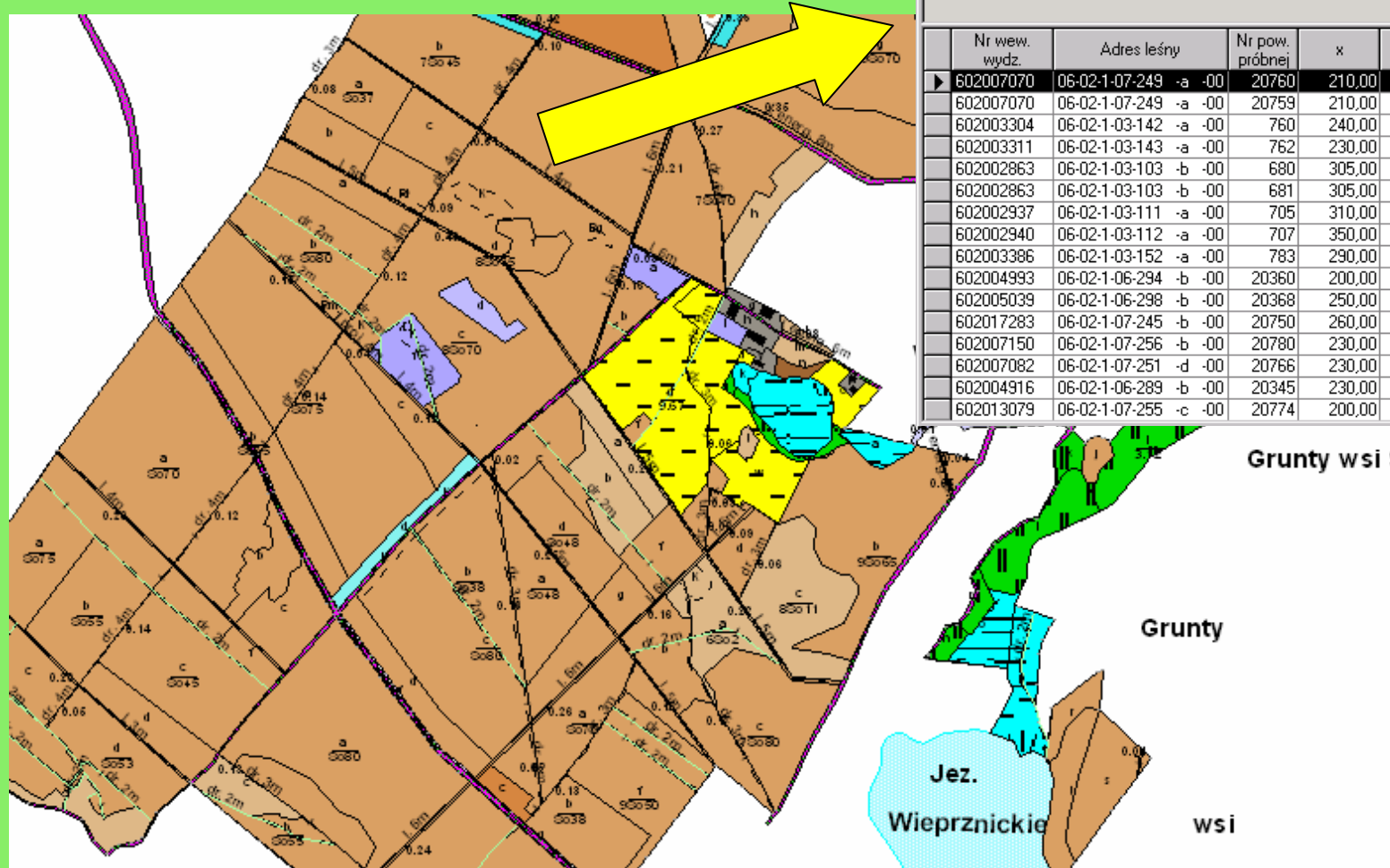
Forest site inventory

**Periodic Forest
Inventory**

**On-line registry on all
activities at stand level**

Comprehensive information system based on numeric maps

More than 2 millions stands



Wyniki regresji

Numer obrębu leśnego:

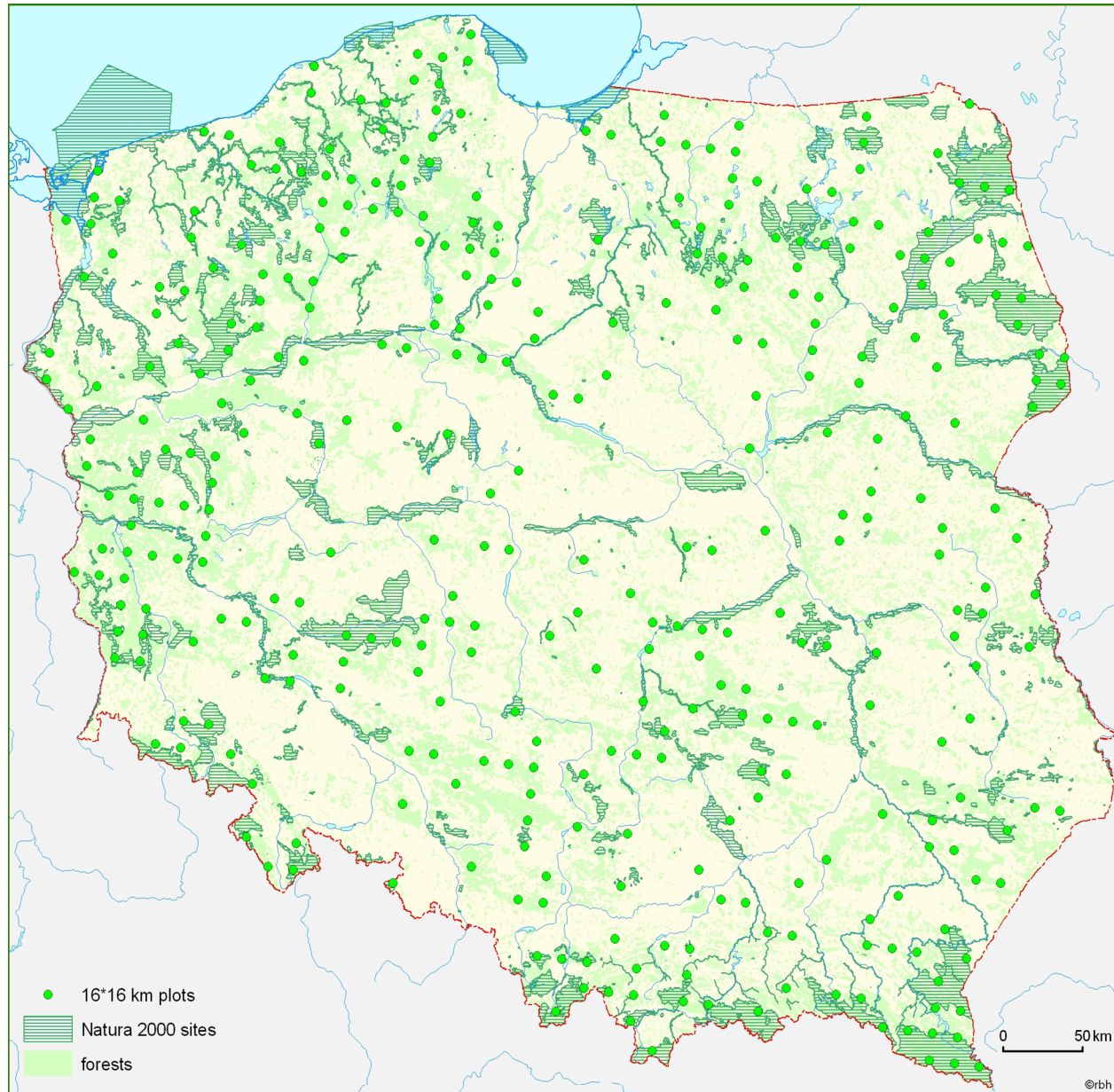
Nr taksatora	Liczba obserwacji	a	b
1	300	97,501446	0,707990
2	318	130,508687	0,589140
3	303	64,630968	0,832406
4	207	102,156809	0,696351

Nr wew. wydz.	Adres leśny	Nr pow. próbnej	x	y
602007070	06-02-1-07-249 -a -00	20760	210,00	247,26
602007070	06-02-1-07-249 -a -00	20759	210,00	371,33
602003304	06-02-1-03-142 -a -00	760	240,00	358,47
602003311	06-02-1-03-143 -a -00	762	230,00	149,65
602002863	06-02-1-03-103 -b -00	680	305,00	214,30
602002863	06-02-1-03-103 -b -00	681	305,00	342,33
602002937	06-02-1-03-111 -a -00	705	310,00	349,71
602002940	06-02-1-03-112 -a -00	707	350,00	293,54
602003386	06-02-1-03-152 -a -00	783	290,00	371,67
602004993	06-02-1-06-294 -b -00	20360	200,00	243,99
602005039	06-02-1-06-298 -b -00	20368	250,00	312,91
602017283	06-02-1-07-245 -b -00	20750	260,00	315,30
602007150	06-02-1-07-256 -b -00	20780	230,00	230,39
602007082	06-02-1-07-251 -d -00	20766	230,00	349,67
602004916	06-02-1-06-289 -b -00	20345	230,00	296,43
602013079	06-02-1-07-255 -c -00	20774	200,00	236,89

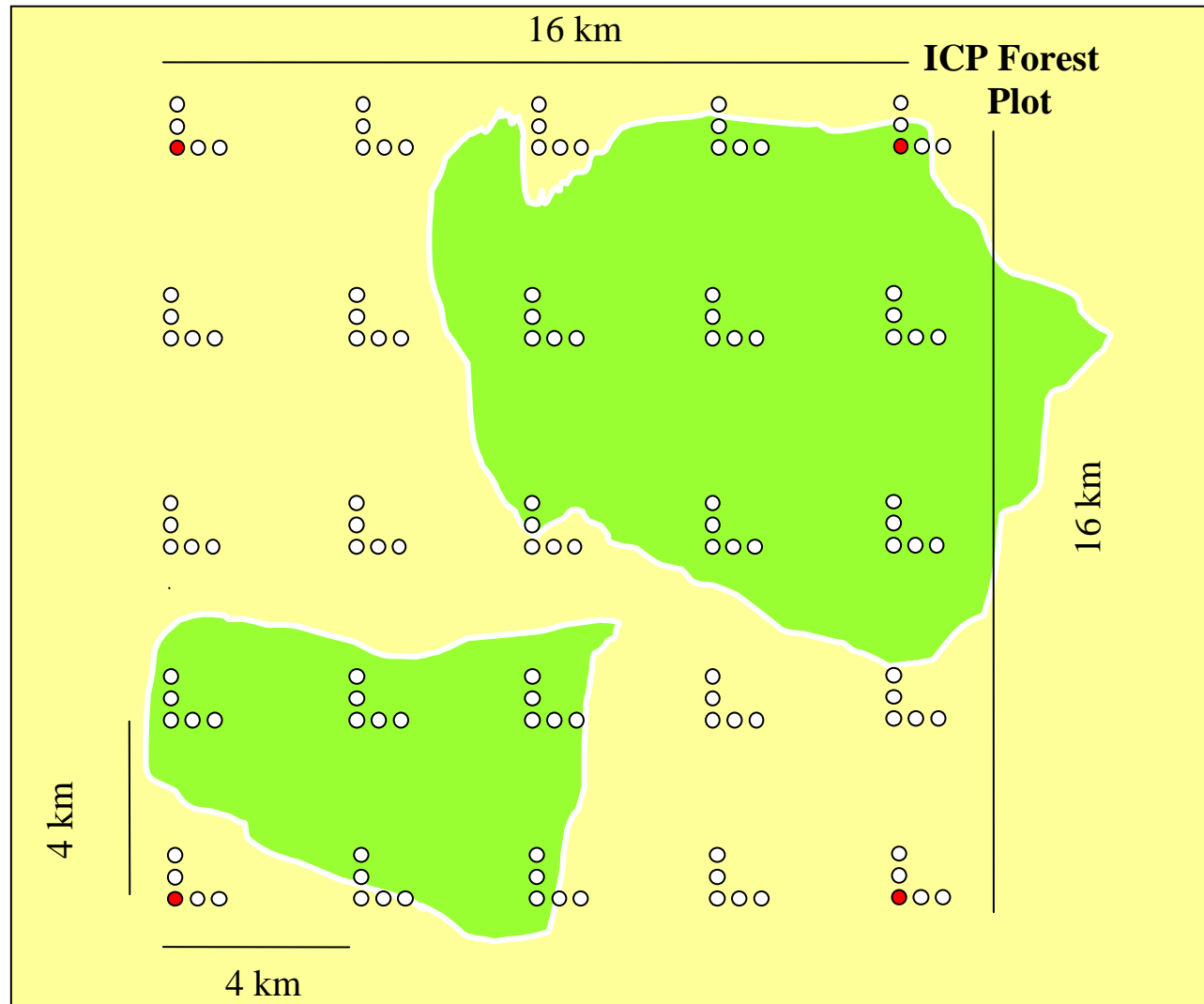
National Forest Inventory

- ✓ forests of all properties, all types and age classes,
- ✓ about 28 thousands of permanent sample plots,
- ✓ tracts located systematically in entire country, 5 plots in tract,
- ✓ one cycle - five years,
- ✓ annually 20% of total sample in the entire country

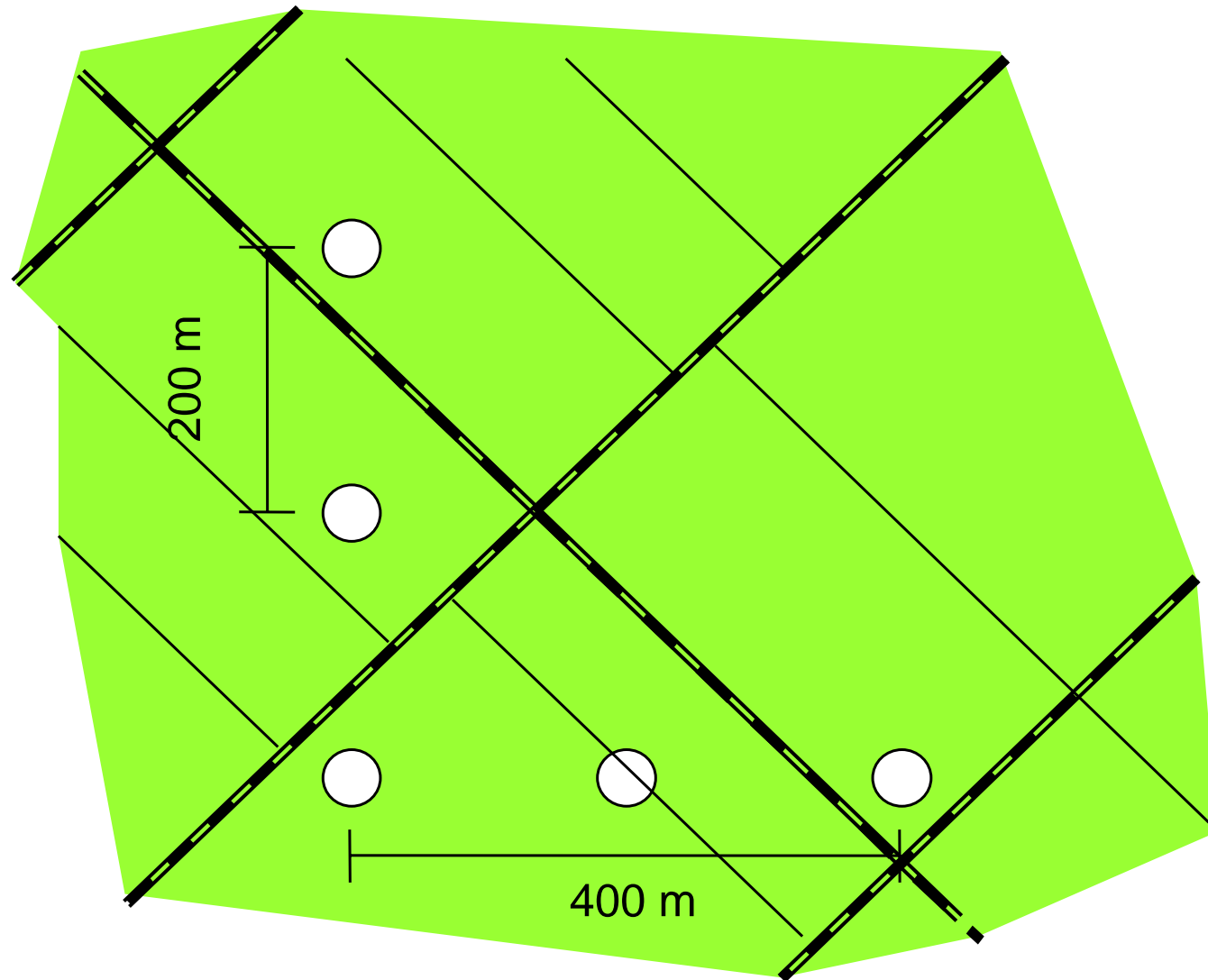
National forest inventory



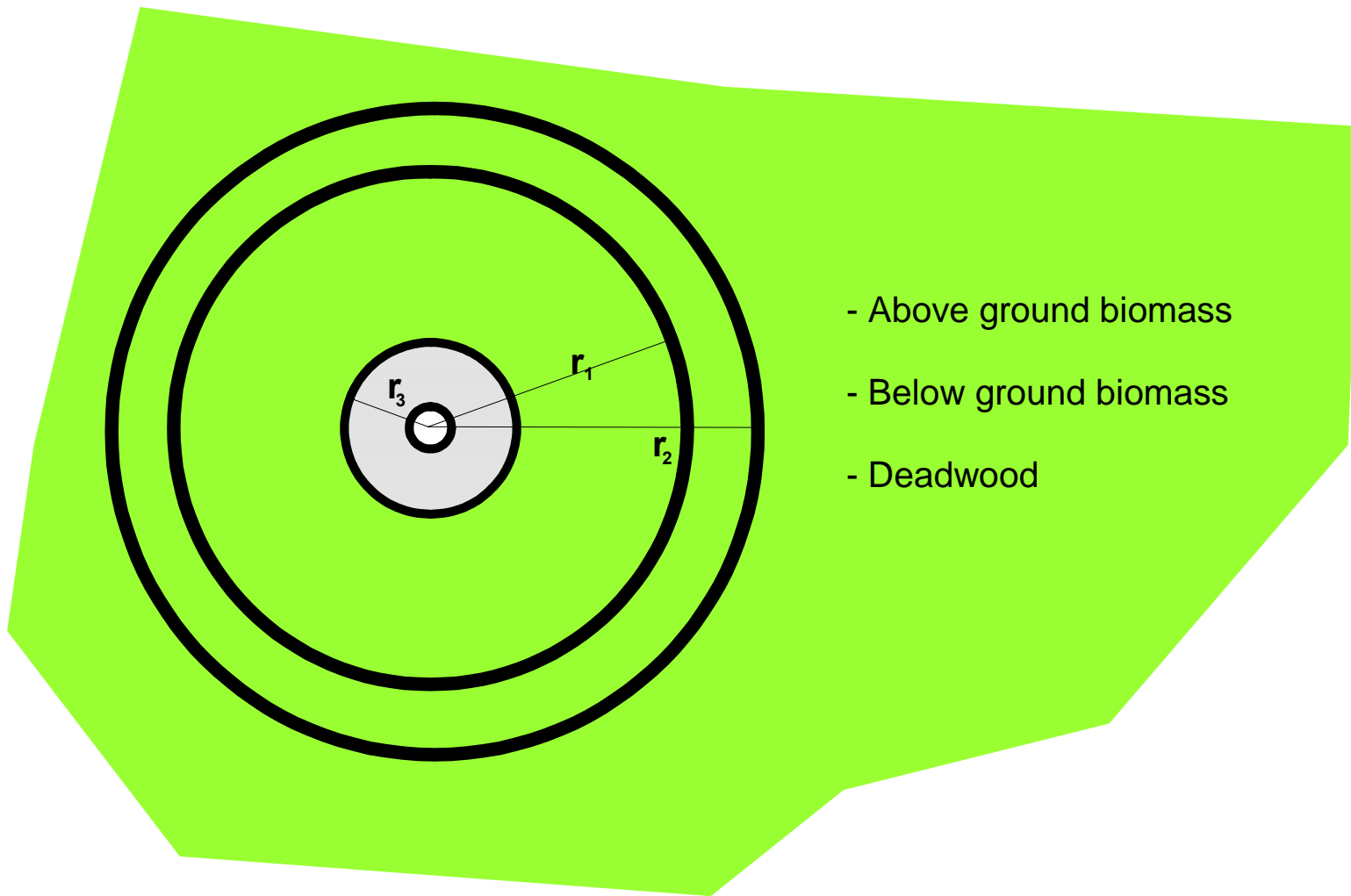
National forest inventory



National forest inventory



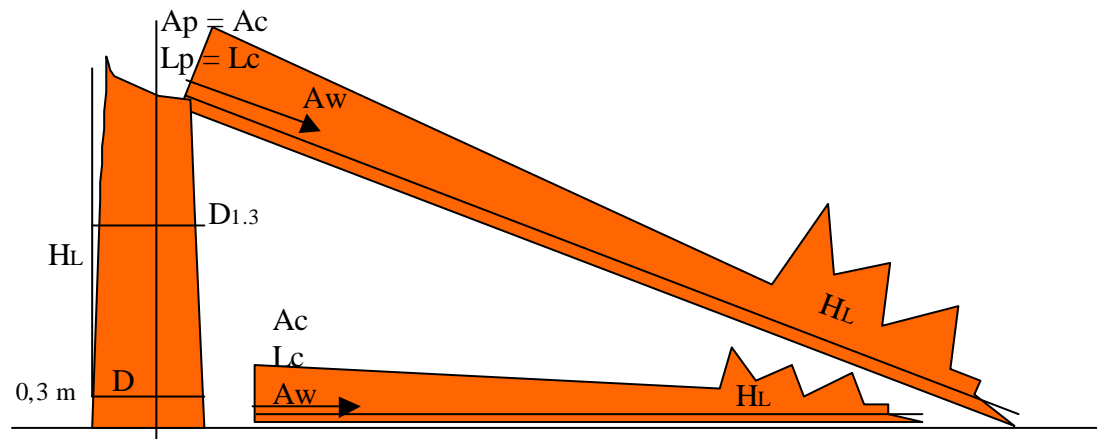
National forest inventory



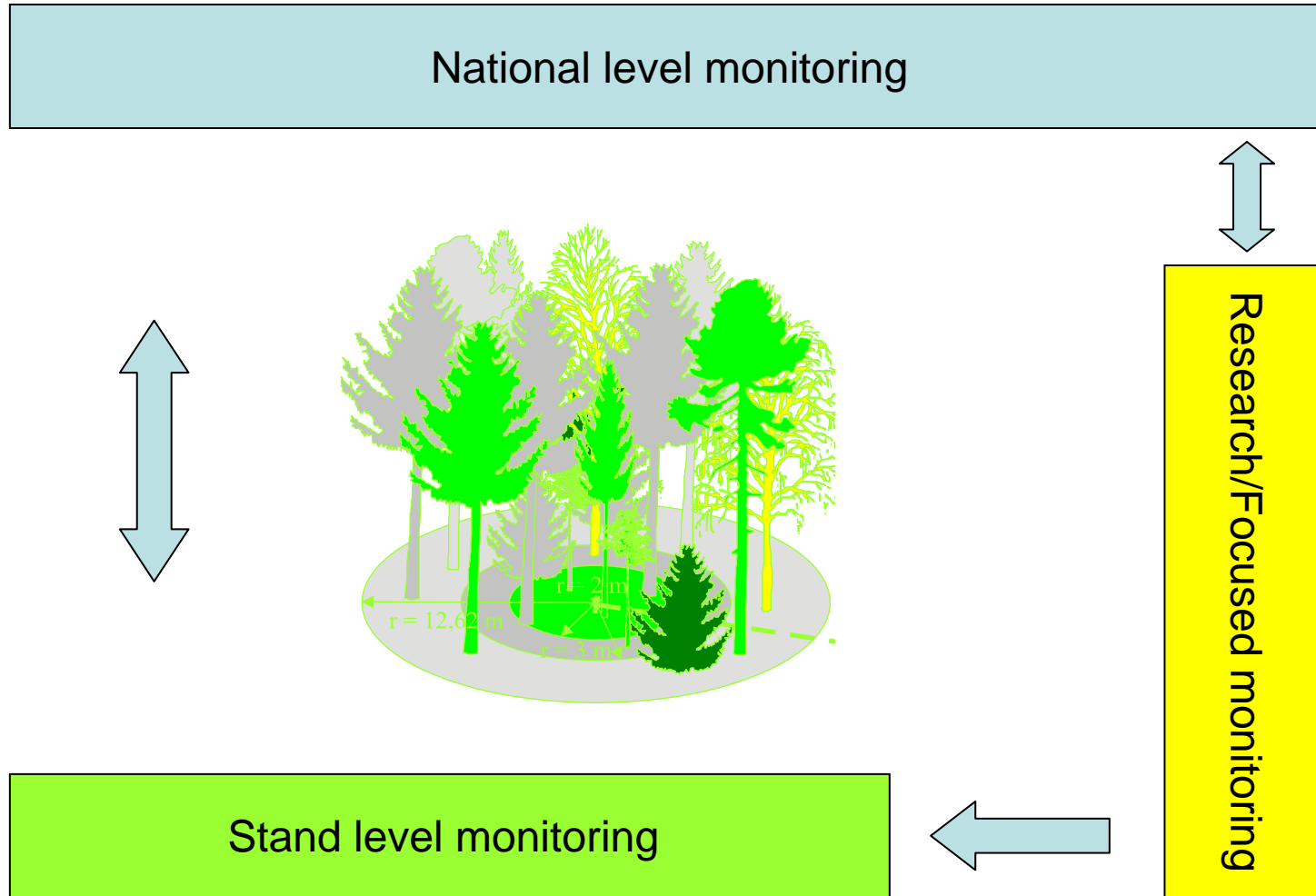
Research plot networks

Various networks focused at *inter alia*:

- expansion factors refinement,
- forest condition monitoring
- forest endangerment monitoring

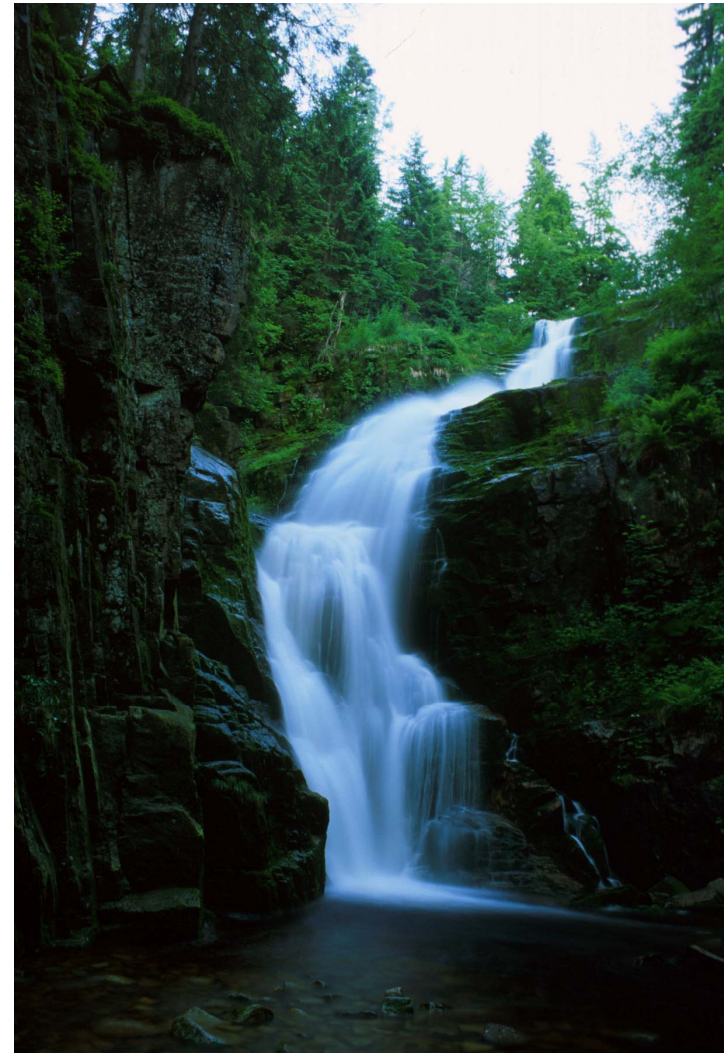


Forest monitoring system



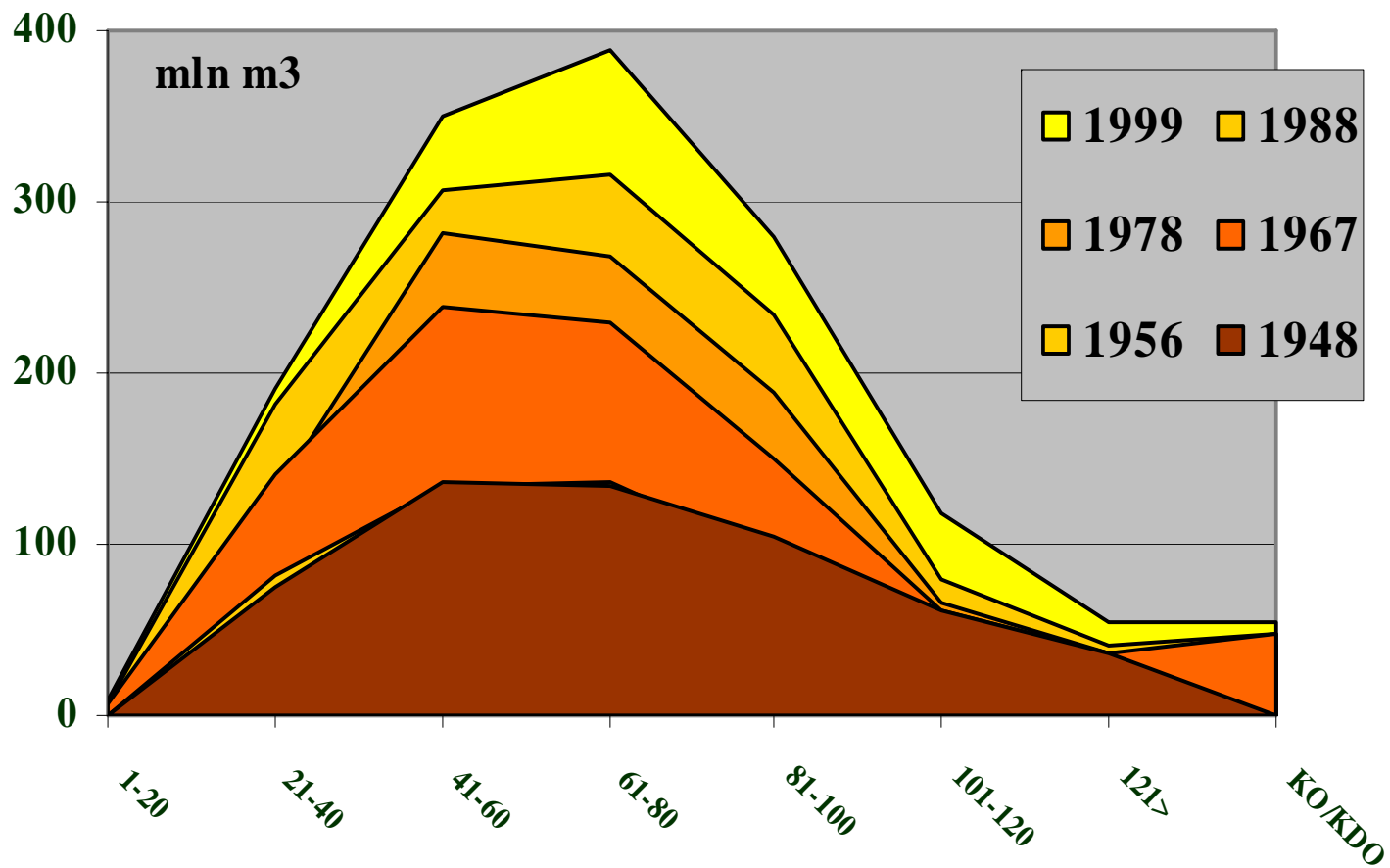
Forests' contribution to the net emissions reductions (1)

- *Forestry activities can play an important role in reducing net GHG emissions*
- *Responsible forest management will contribute to the achievement of EU reduction goals*



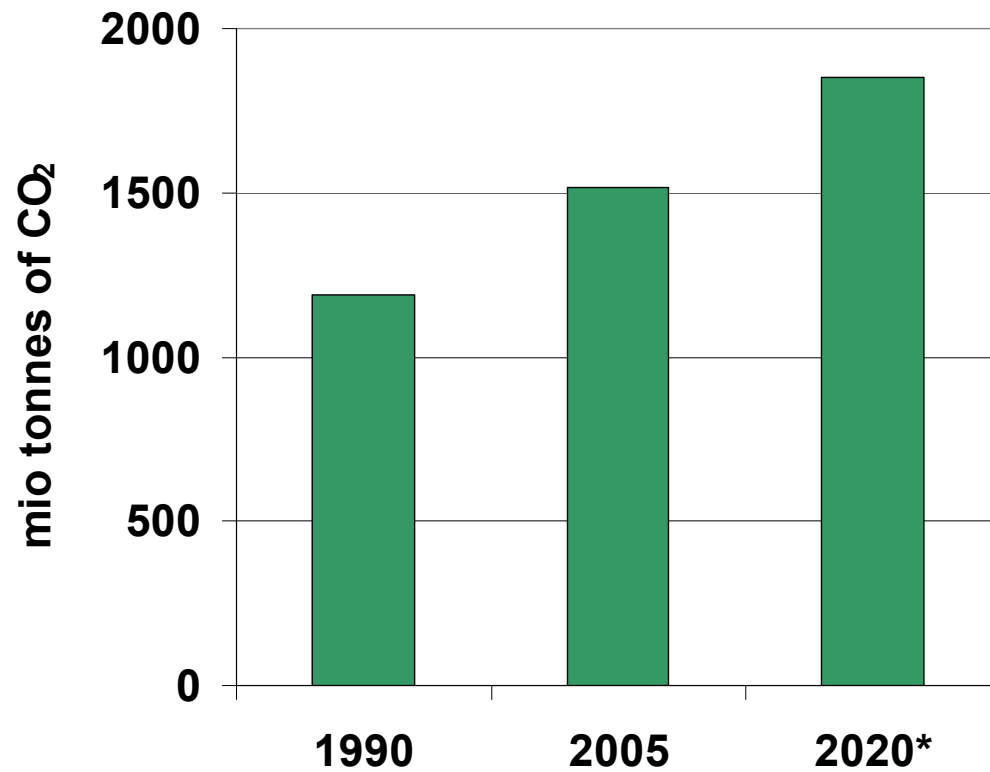
Forests' contribution to the net emissions reductions (2)

Growing stock change



Forests' contribution to the net emissions reductions (3)

Carbon stock in the above ground wood biomass



*UNECE/FAO 2003: EFSOS



Conclusions

Main challenge

- conserving and increasing carbon pools through afforestation and reforestation & sustainable mgt

vs.?

- substitution of non-renewable energy by use of biomass



Thank you

