

Forestry in the Czech Republic

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Photo: I. Kunes 2010

Czech Republic

Area:	78,866 km ²
Population:	10,5 million
Pop. density:	134 / km ²
GDP:	296 bn USD
GDP per capita:	27,609 USD

Data source: http://en.wikipedia.org/wiki/Czech_Republic (December 2022)

Forestry in the Czech Republic

The figures and information in the presentation are derived from data by Forest management institute and Czech Ministry of Agriculture

The forest area in the Czech Republic is nearly 2.6 million ha
Czech forests cover 34% of the land area.

Total growing stock volume: 696 million m³ i.b. (inside bark),
in 1930 it was 300 million m³ i.b.

Total annual increment: ca 17.9 million m³ i.b.

Total annual harvest: 15 million m³ i.b.

Mean growing stock volume: 264 m³/ha i.b. (all age classes and clear-cut tracts)

Minimal age of a planned harvest felling: 80 years

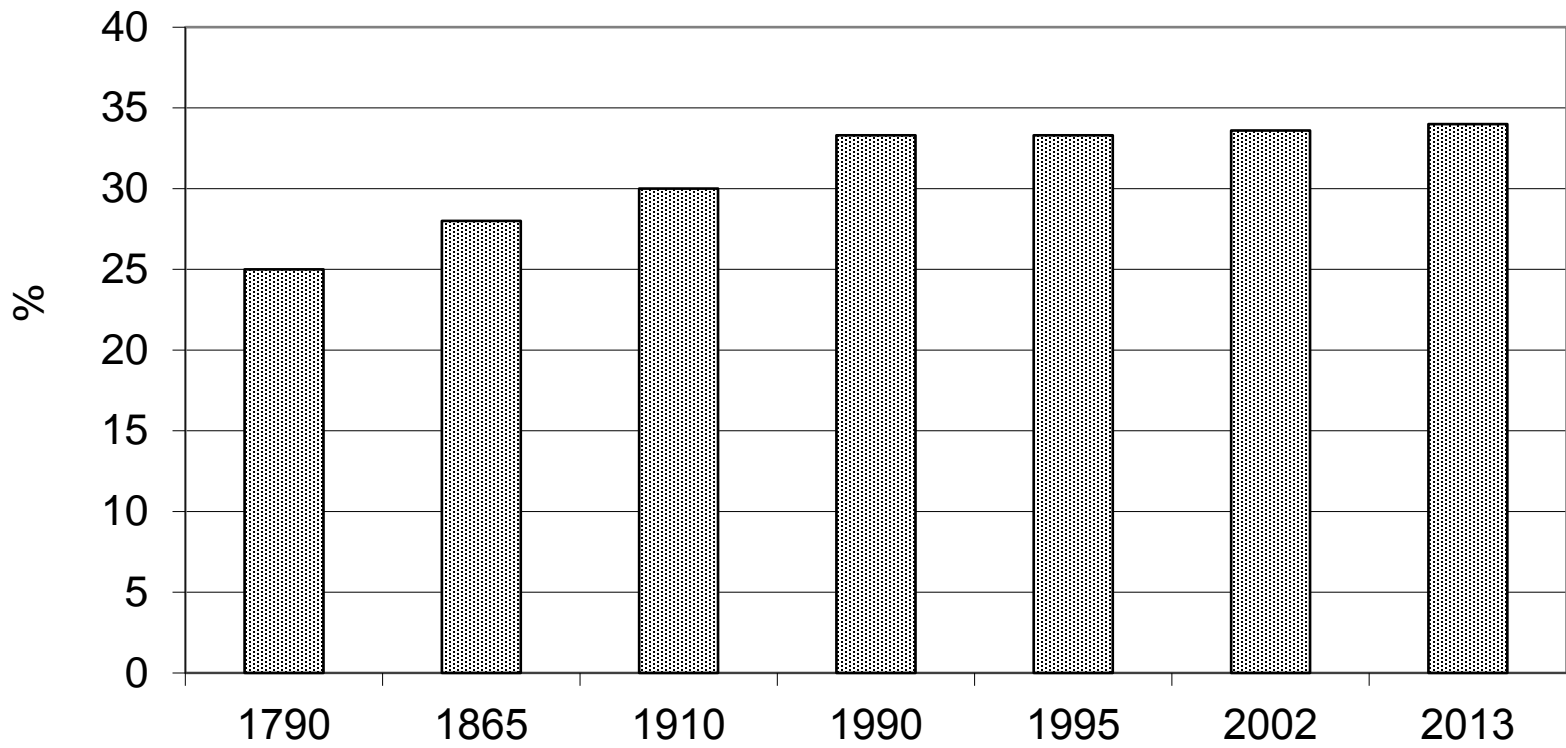


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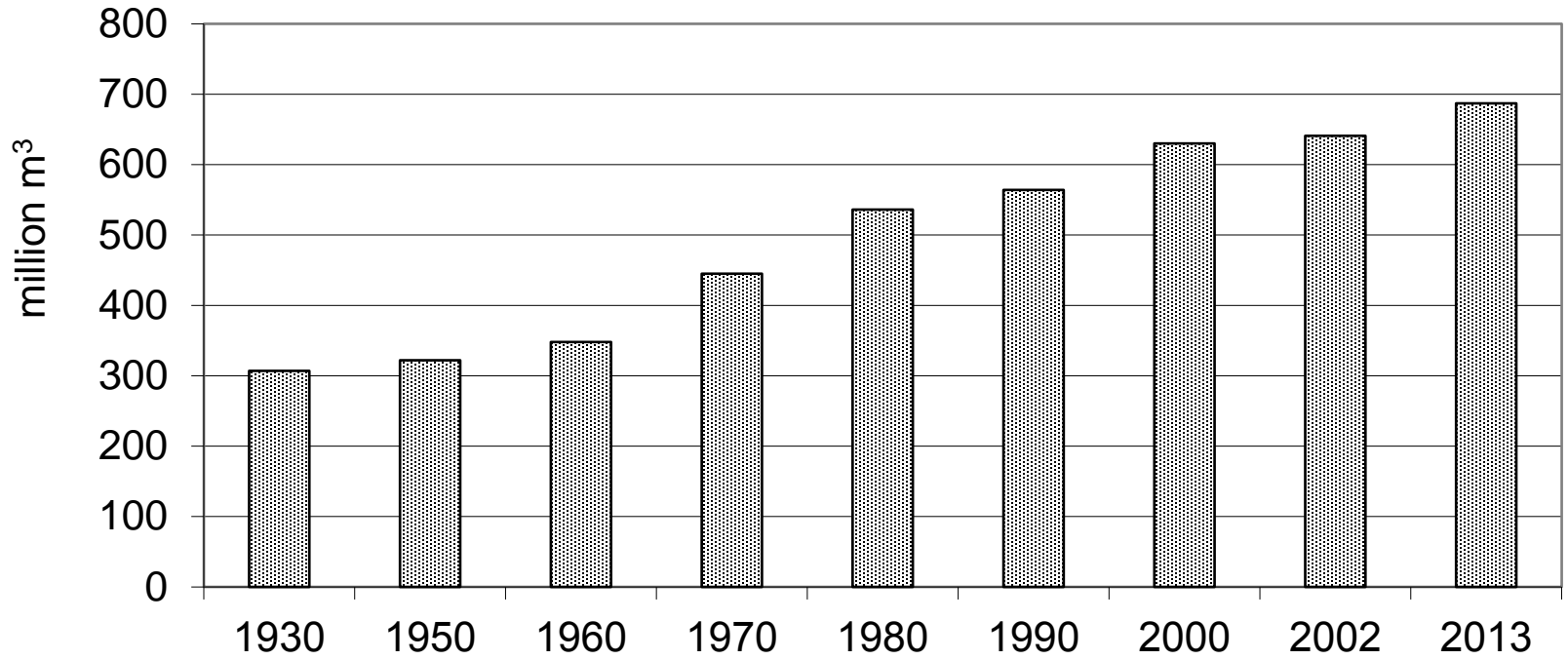
Photo: Kuneš 2016

The mosaic landscape in Czechia consists of agriculture land, forests as well as villages and towns (SE Bohemia).

Forest area in Czech Republic



Total Growing Stock Volume



Proportion of the Czech forestry in the Economic value added (EVA) in basic prices: 0.6%

Czech forestry provides ca 30,000 working posts (i.e. 0.6% of employable population).

Wood-processing industry provides cca 77,000 working posts (i.e. 1.7% of employable population).

**Recent Czech legislation (Forestry act No. 289/1996)
guarantees that the Czech forest should be managed in
a sustainable way.**

Duty to replant/regenerate forest stand within 2 years (pine weevil)
after clear-felling.

Duty to „establish“ the new (reproduced) forest within 7 years after
clear felling.

Size limitation of the clear-cut area (planned timber harvesting)

Clearcutting Methods



Photo: I. Kuneš 2016

The maximum size of a planned clear-cut tract is commonly 1 ha in the Czech Republic.

Scotland



Photo: I. Kuneš 2004

Selection systems



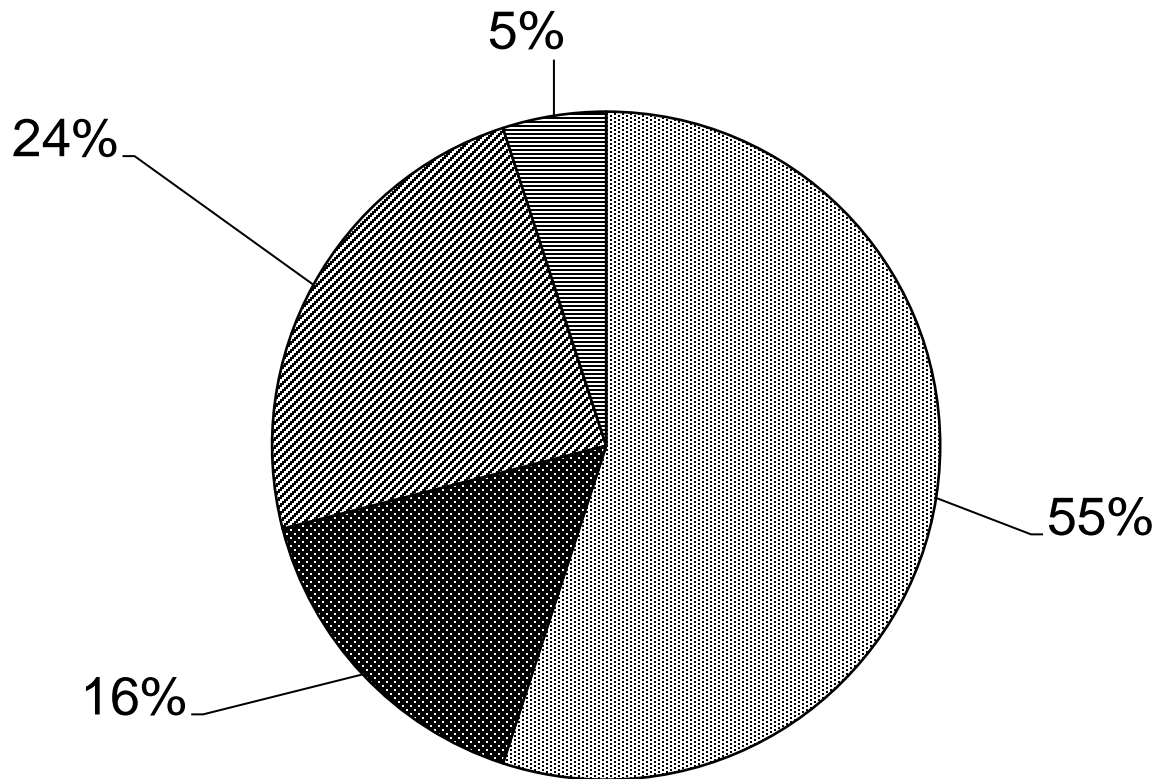
Photo: Remeš in Poleno et al., 2007b

Shelter-wood Methods



Photo: M. Baláš 2006

Forest Ownership Structure



- State
- Communities and Self-government Units
- Private
- Church

Principal state bodies managing forest

Forests of the Czech Republic (state enterprise)

Managed forest area: 1.3 mil ha

Army Forests and Estates of the Czech Republic

Managed forest area: 125 000 ha

Ministry of Environment (National Parks): 97 000 ha

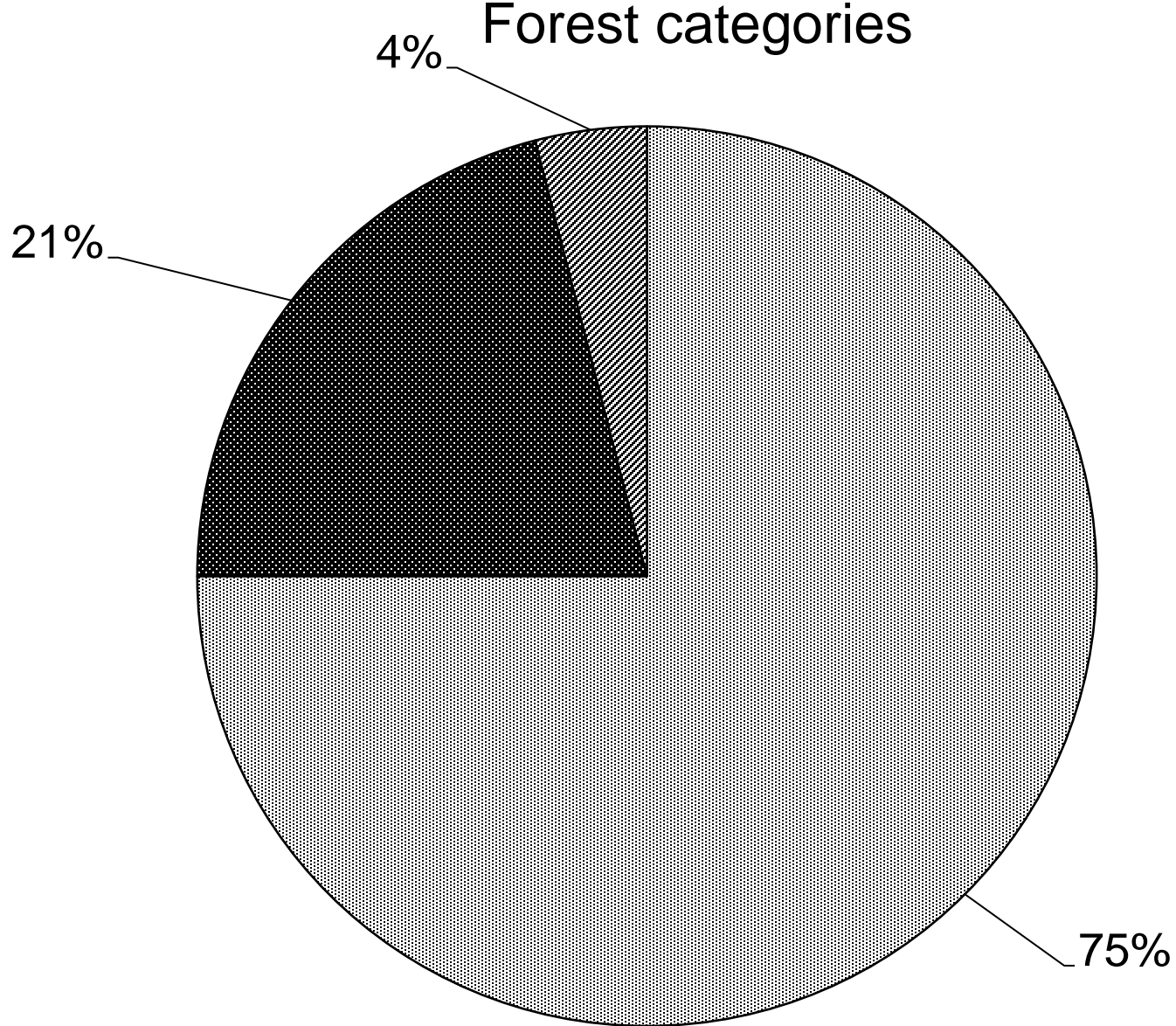
Biggest Municipal Owners

Brno (Brünn):	8,186 ha
Písek (Pisek):	6,500 ha
Kašperské hory (Bergreichenstein):	6,084 ha

Bigest Private Owners

Jerome Colloredo-Mansfeld:	17,000 ha
Schwarzenberg family (Jan and Karel):	10,000 ha
Kristina Colloredo-Mansfeld:	9,200 ha

Forest categories



- Comercial (production) forests
- Special purpose forests
- ▨ Site protecting forests

Production forest (pure, even-aged stand)



Photo: M. Baláš 2006

Production forest (mixed, structurally diversified stand)



Photo: I. Kunes 2015

Protection forest – high elevations



Photo: I. Kunes 2010

Mixture of dwarf pine (*Pinus mugo*), Norway spruce (*Picea abies*) and birch (*Betula pubescens*) close to a forest-limit zone in the Krkonoše (Giant) Mts.

Protection forest – low elevations



Photo: I. Kunes 2018

Dwarfed oaks (*Quercus petraea*) on steep slopes with shallow soils (Central Bohemia).

Special purpose forest (nature conservation)



Photo: J. Bursíková 2018

Preserved beech forest complex on the north-facing slopes of the Jizera Mts (Jizerskohorské bučiny) was placed on the UNESCO World Heritage list.

Special purpose forest

Urban Forest (recreation and conservation)

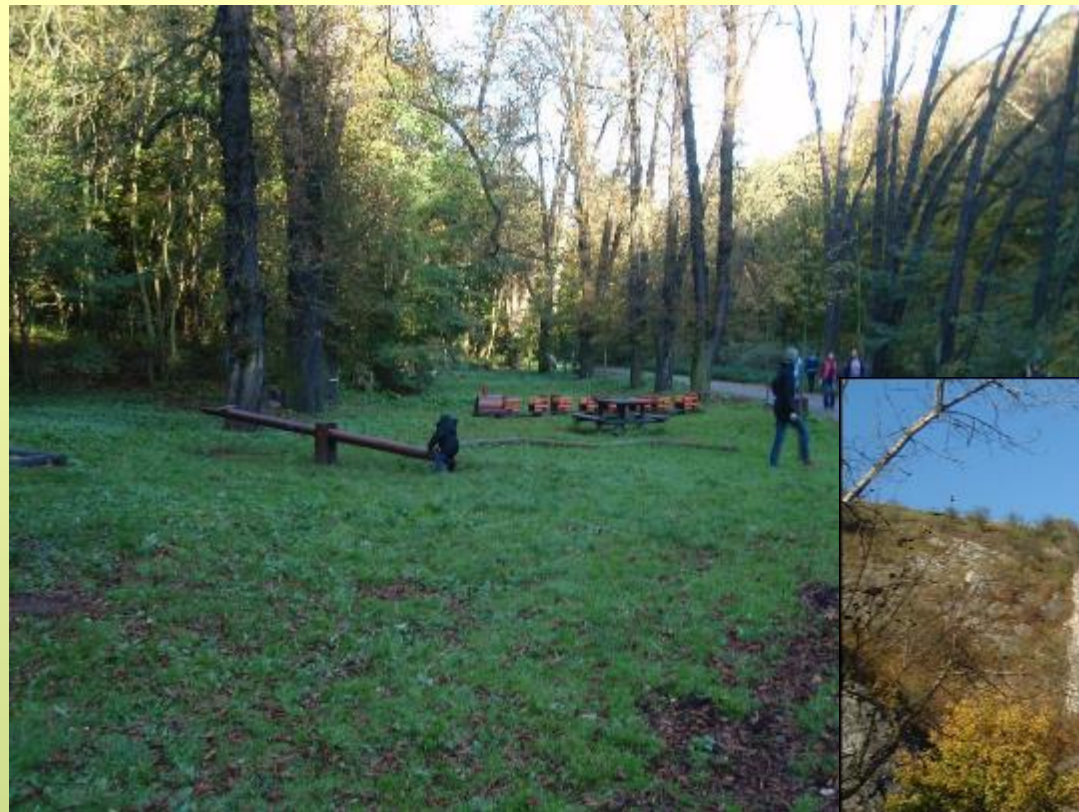


Photo: I. Kuneš 2010

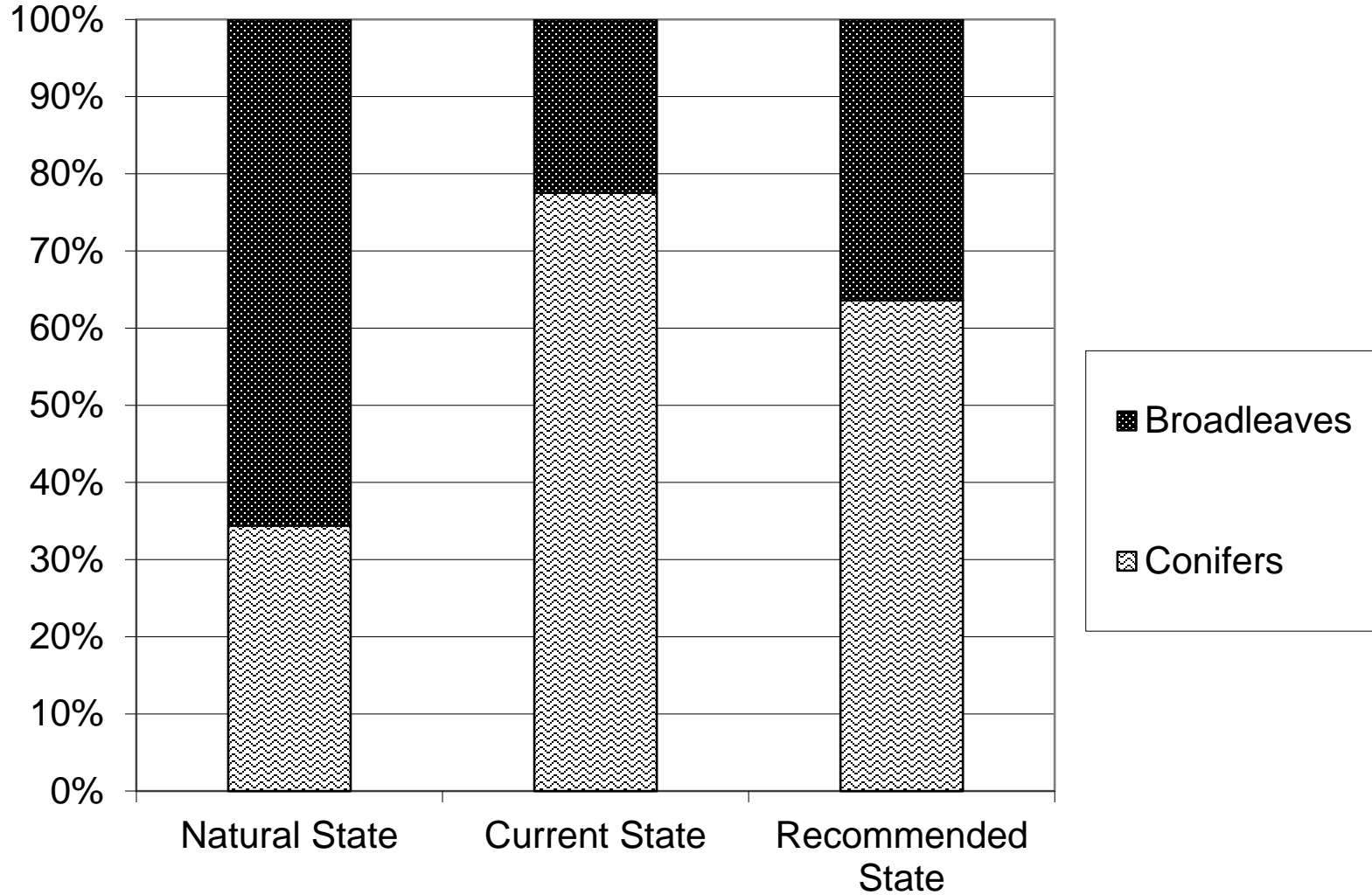


Photo: I. Kuneš 2010

Main Problems of Czech Forestry

- Substantially changed species composition
- Overstocked hoofed game
- Meteorological extremes and climate change
- Clash of ideologies and opinions on how the forests should be managed
- Acidification

Species Composition



- The change in the species composition of the Czech forests is closely linked to historical development.
- Human pressure on forests often led to their devastation in the past.
- Foresters tried to ensure a sufficient and steady supply of timber for the society.
- Instead of forest stands with a native species composition, productive coniferous monocultures (pure even-aged stands) were often planted on the clear-cut tracts.

The mountain forests in Czechia were in the past often affected by glassworks that consumed enormous amounts of wood as a fuel or as a source of potassium.

Kristianov – Jizera Mts, Czechia



Figure source: Archives of the Museum of Glass and Jewellery in Jablonec nad Nisou, Czech Republic

Forest workers felling forest for glassworks in Harrachov (Krkonoše (Giant) Mts) ca by 1900. A common glasswork consumed cca 6,000–10,000 m³ annually.



Figure source: archives of KRNAP; publication by Šimurda et al. (2012)

(15) Dřevěné smyky v údolí Zeleného potoka

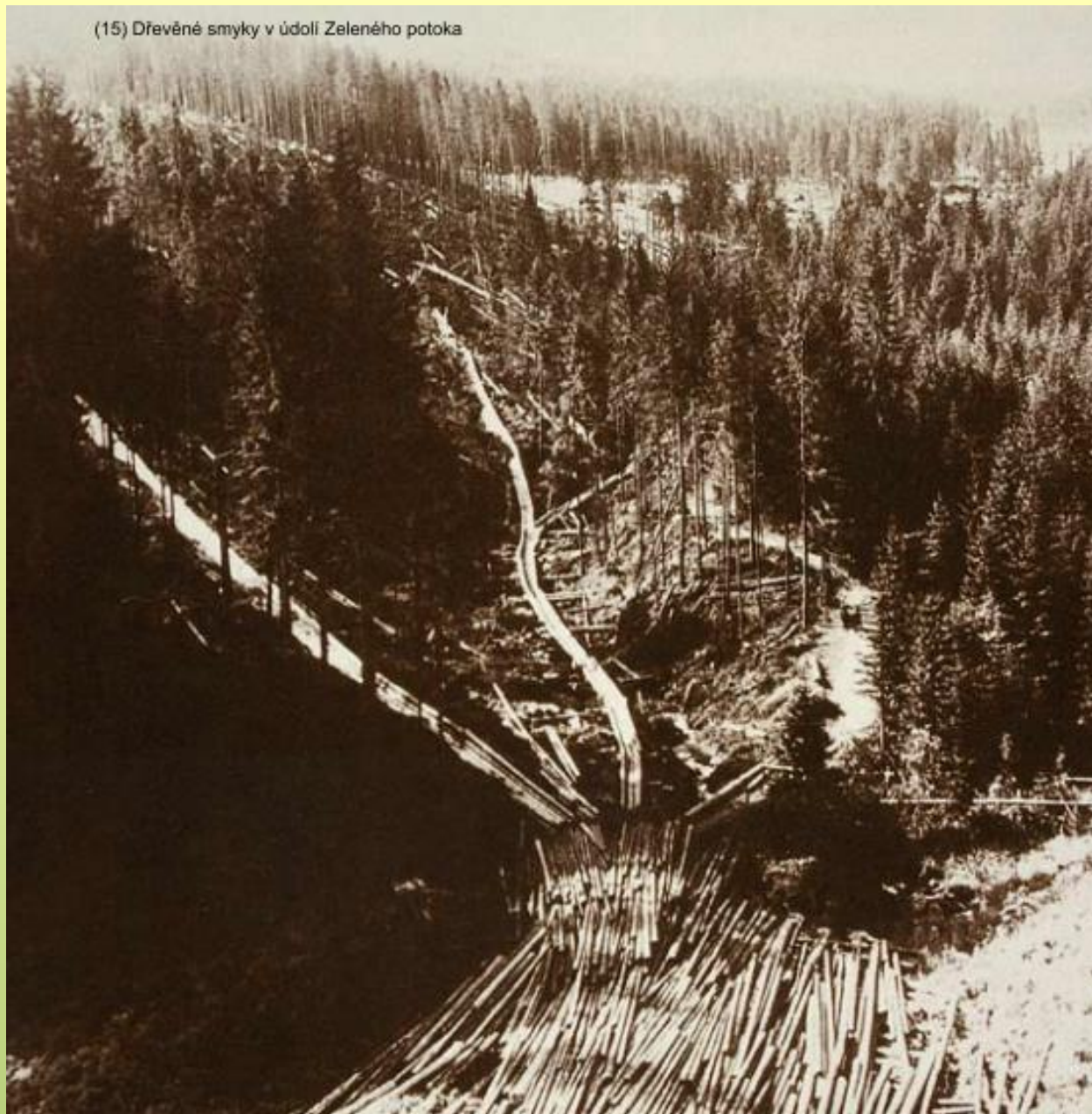


Figure source: archives of KRNAP; publication by Šimurda et al. (2012)

Chosen Four Commercial Tree Species in Czechia

European beech (*Fagus sylvatica*)



Photo: M. Baláš 2011

Oak (*Quercus* Sp.)



Photo: M. Baláš 2011

Oaks grown in a forest nursery.

Pine (*Pinus sylvestris*)



Spruce (*Picea abies*)



Photo: I. Kuneš 2020

Thank you!



Photo: I. Kuneš 2008

Sources:

- Personal archives of the author.
- Publicly available data of the resort of Ministry of Agriculture of the Czech Republic (Forest Management Institute <https://www.uhul.cz/>), Wikipedia (<https://en.wikipedia.org/>)
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- ŠIMURDA J. (2012). Příběh lesa – devět století krkonošských hvozdů [The story of the forest - nine centuries of the Krkonoše forests]. Správa krkonošského národního parku, Vrchlabí, Czech Republic. 33 p