

ATCZ251 FORRISK Cross-border forest risk management

KICK-OFF MEETING



Městské LESY Dačice

Municipal Forests Dačice
Associated partner

Date: April 8-9, 2021



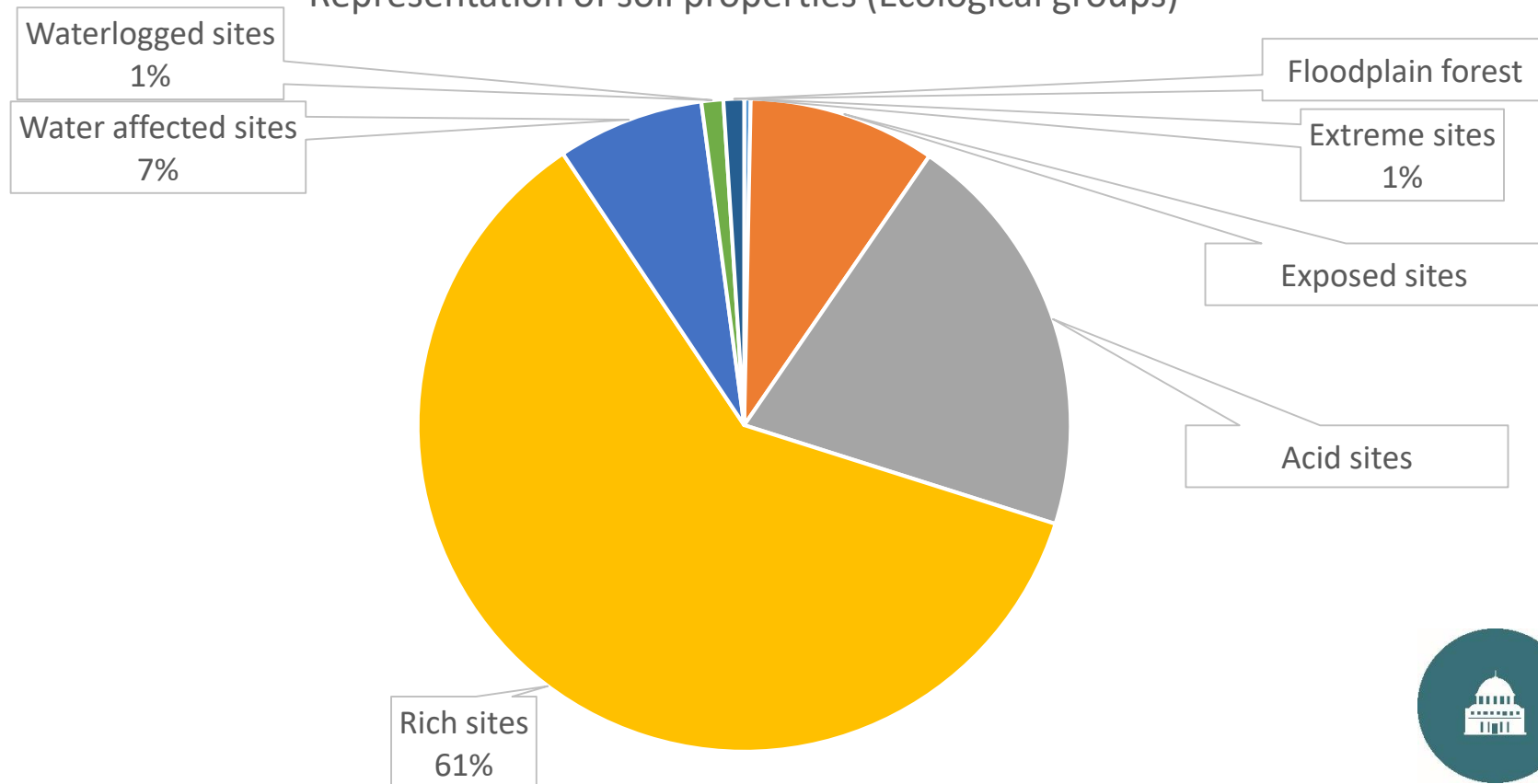
Characteristic of the Enterprise

- MF Dačice managed 849 ha of forest
- There are six owners
- The enterprise is fragmented
- Natural Forest Area (PLO 16) – Bohemian-Moravian Highlands
- and (PLO 33) – Foreland of Bohemian-Moravian Highlands
- Forest vegetation zones: from 3– oak-beech to 6– spruce-beech
- Small representation of Forest Types File (SLT) 35 and Target Management Unit (CHS) 13
- Allowable cut 66 440 m³, wood stock 194 221 m³
- Forest Plan (LHP) valid for 2015-2024 MF

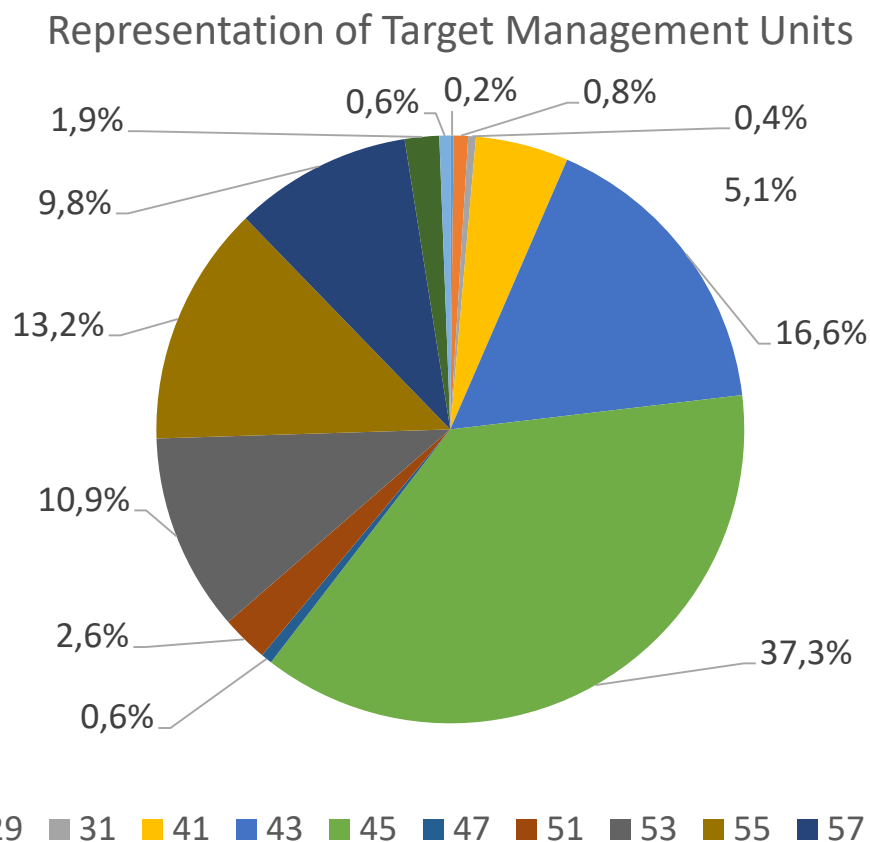


Natural conditions

Representation of soil properties (Ecological groups)



Natural conditions



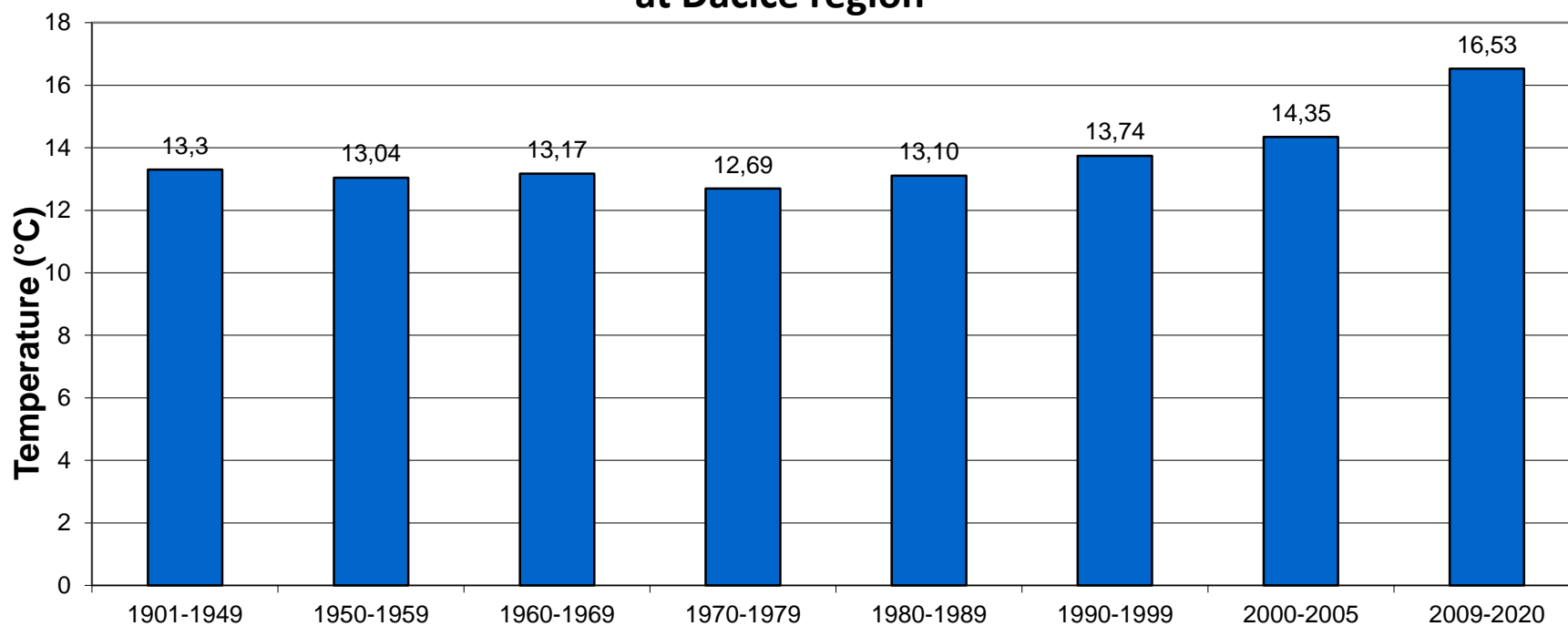
Long-time characteristic of Climatic conditions of region

- Mean annual air temperature 6.9 °C
- Mean annual amount of precipitation 581.2 mm
- Precipitation amount during a growing season varied from 400 to 450 mm
- Precipitation amount during a winter time varied from 250 to 300 mm



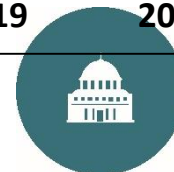
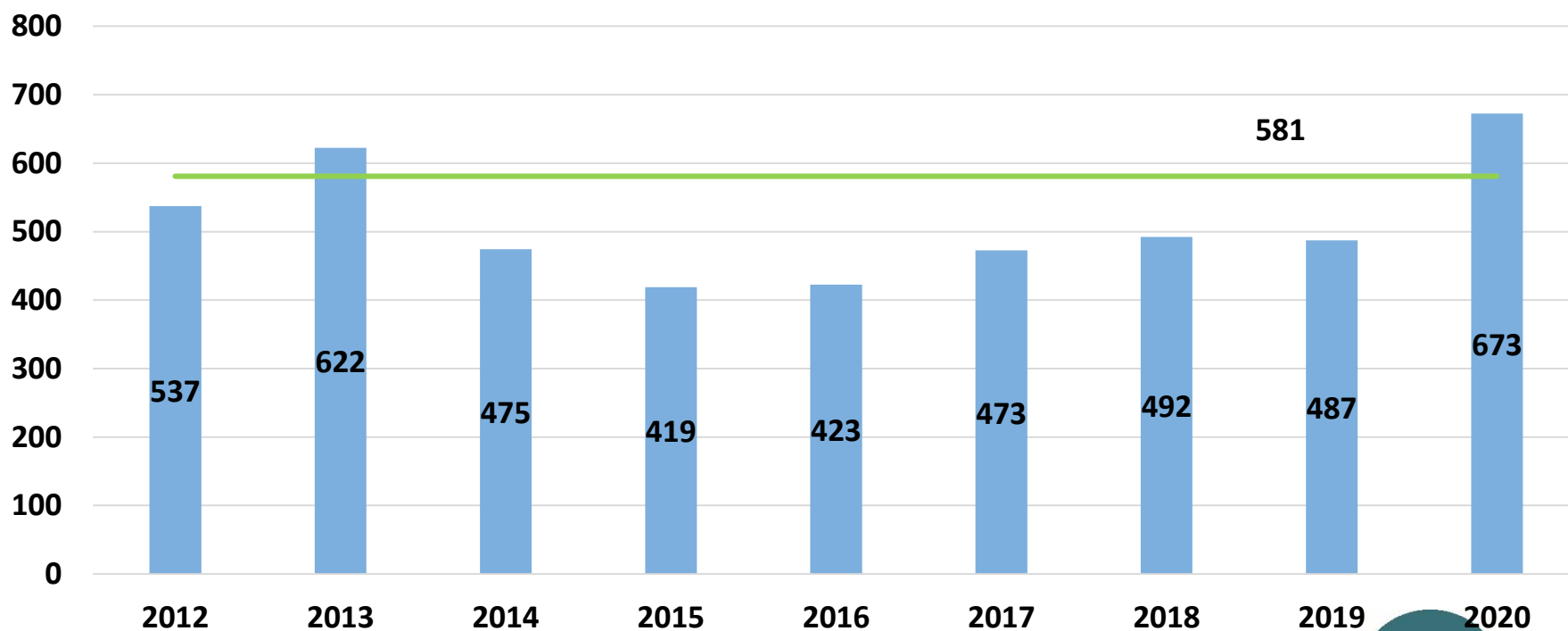
Current climatic conditions

**Mean air temperatures during growing seasons (April - September)
at Dačice region**

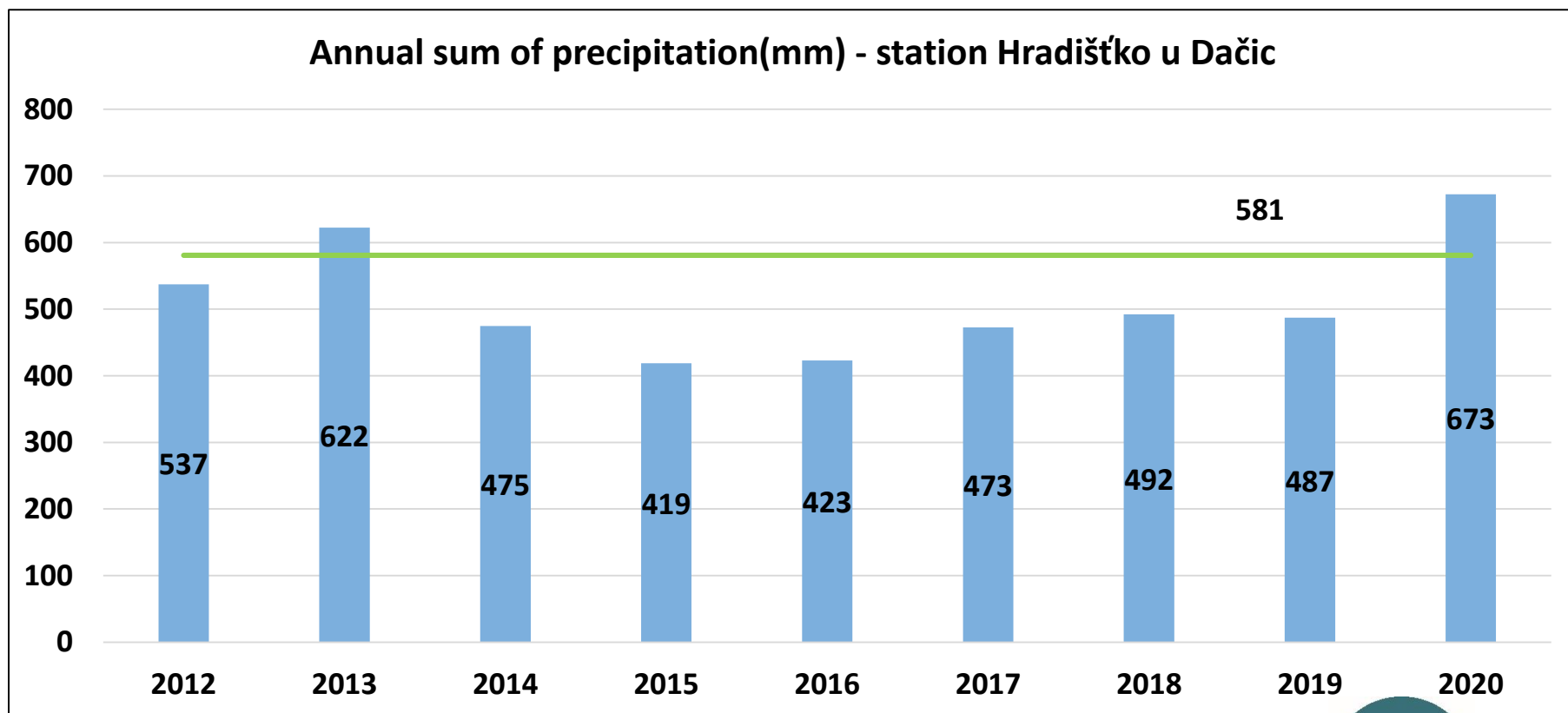




Úhrn srážek (mm) - stanice Hradištko u Dačic



Current climatic conditions

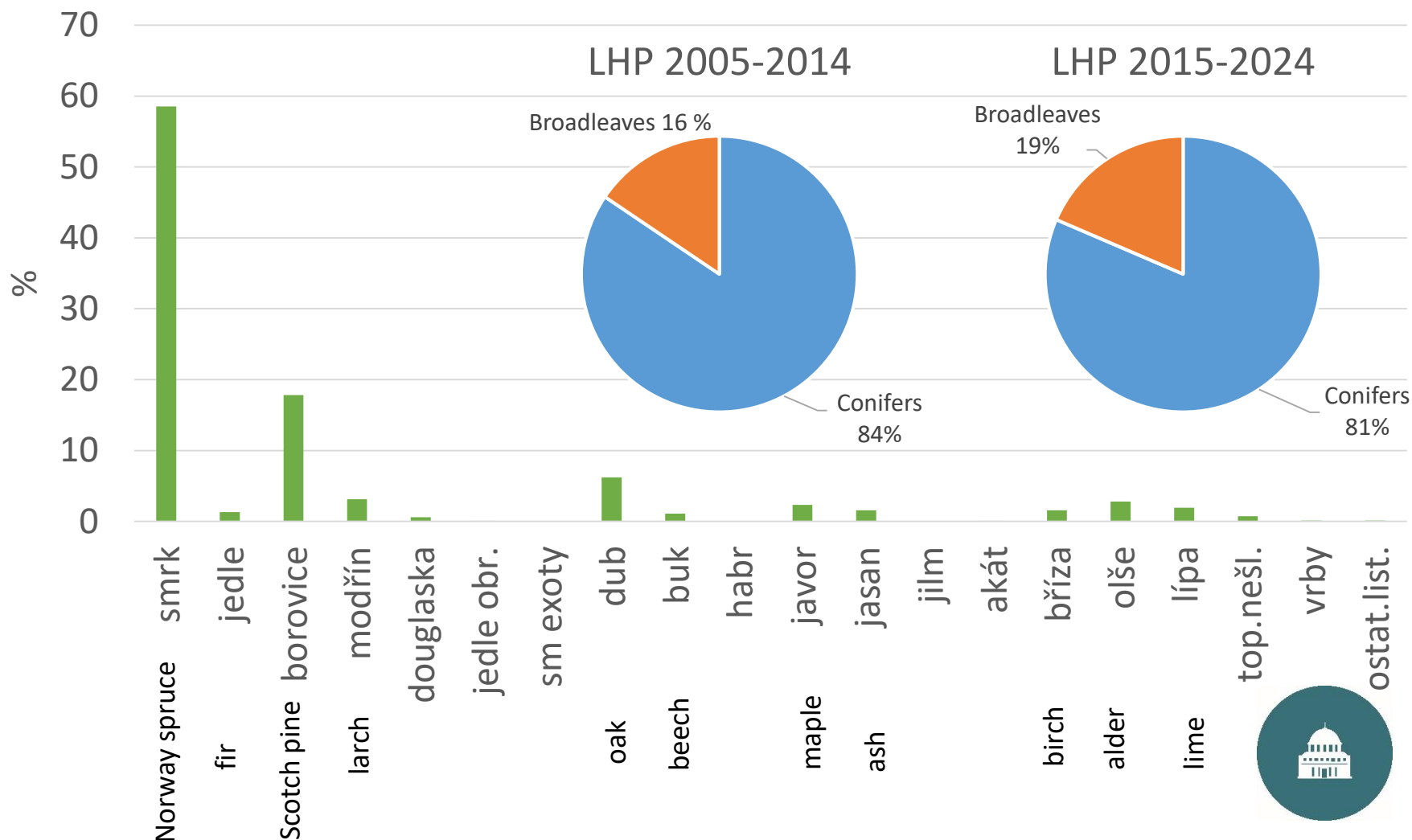


/green line – mean of normal period 1961-1990/



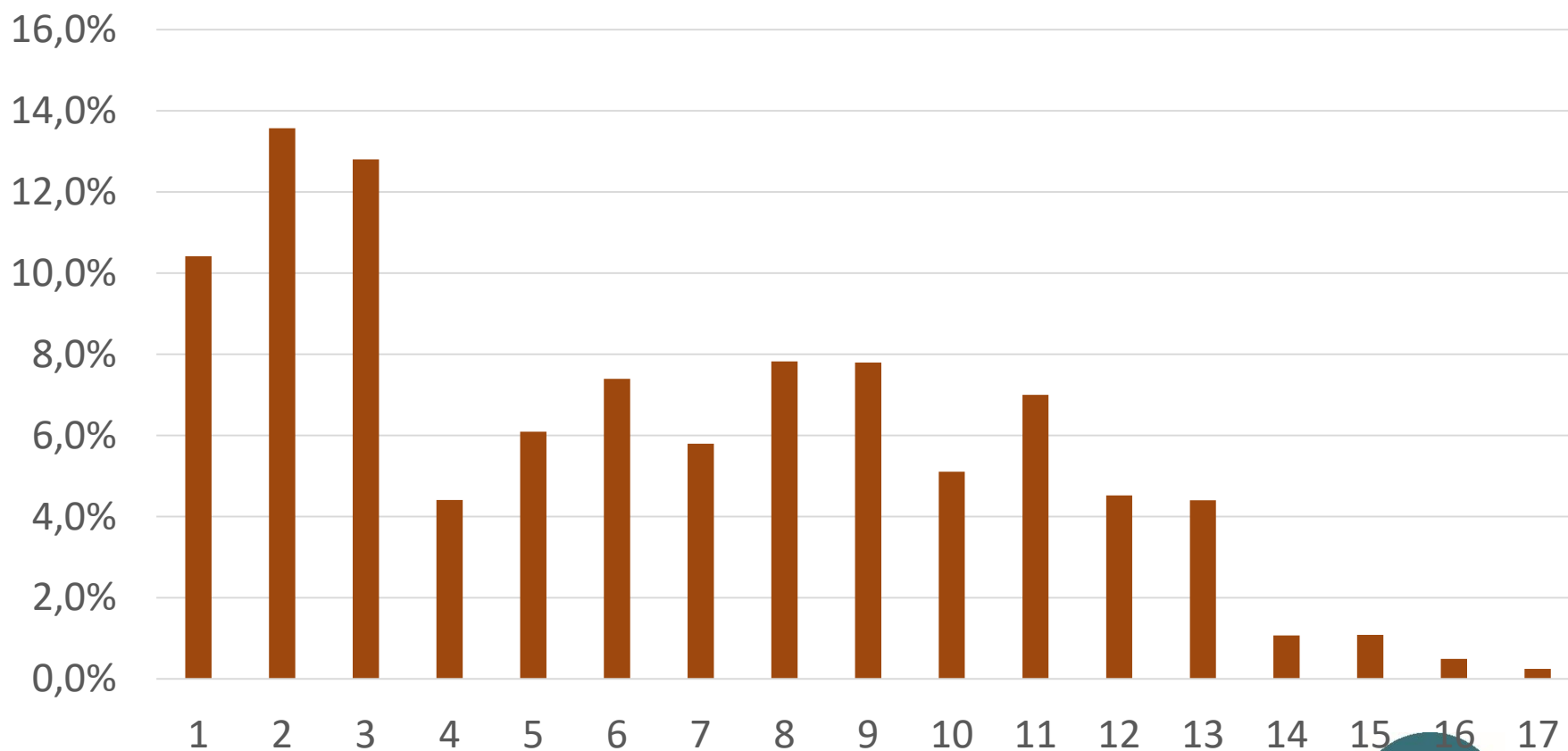


Tree species representation

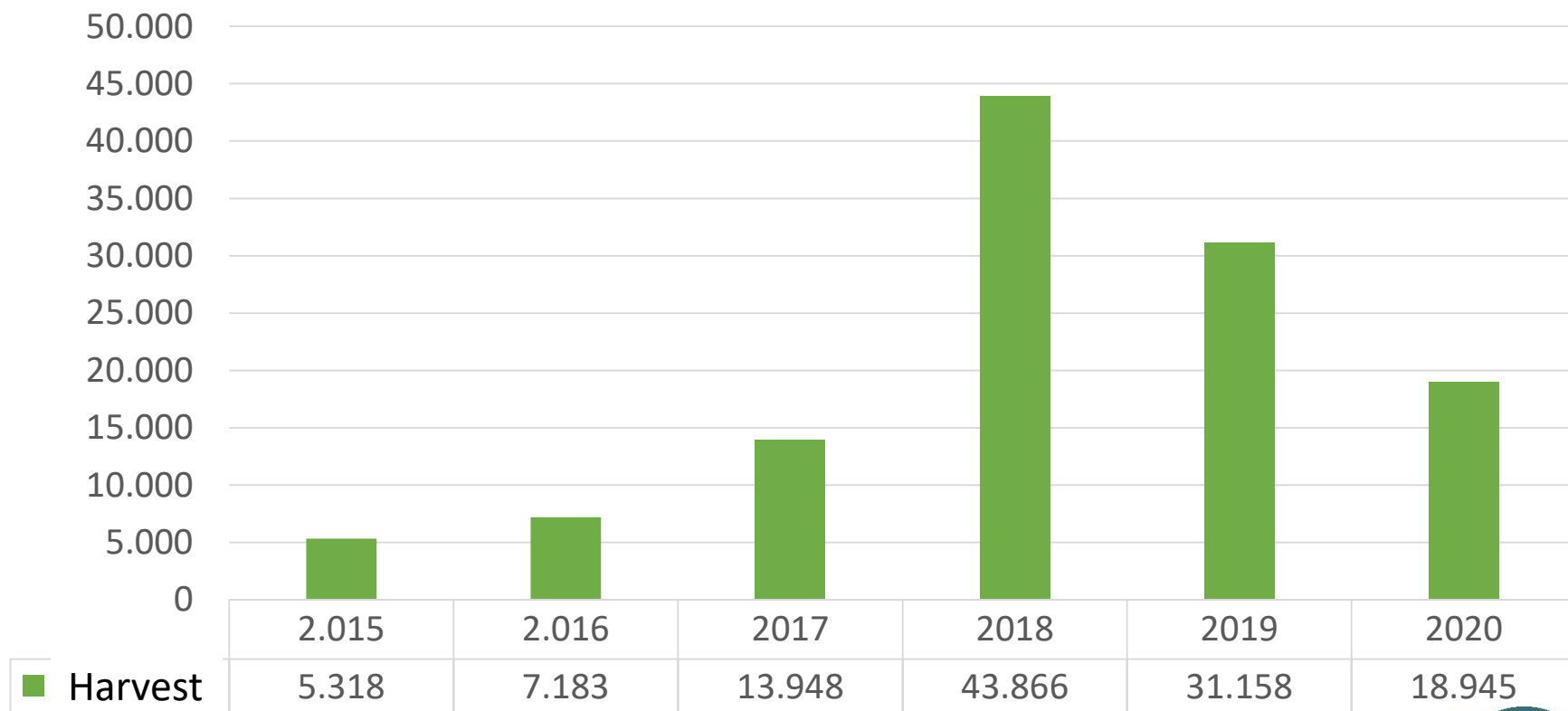




Age degrees (10 years) representation



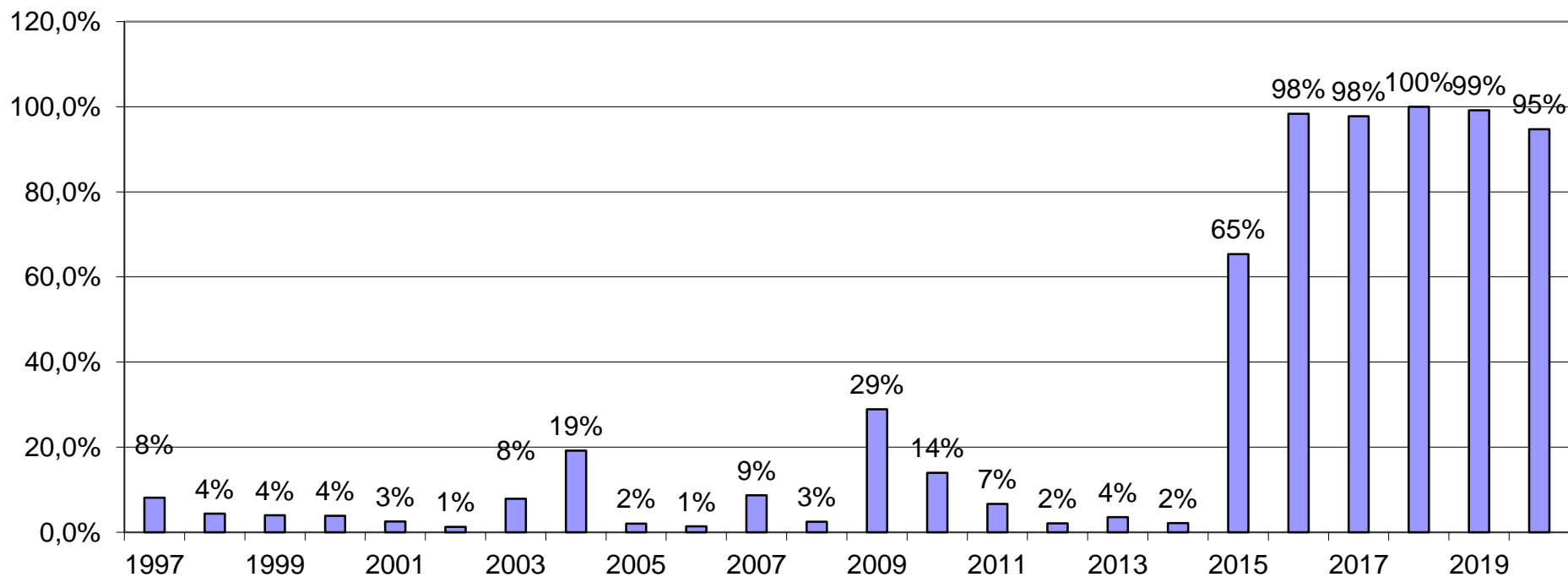
Total annual cutting (m³)



Calamity situation 2015-2020



Bark beetle cutting proportion to total cutting

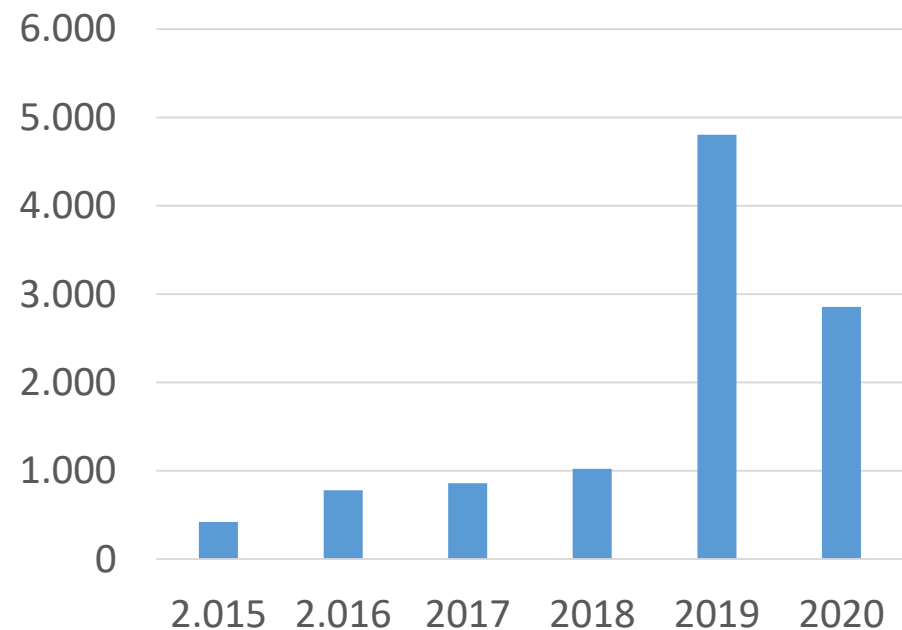


Calamity situation 2015 – 2020

The reasons of occurrence:

- Climatic conditions
- Disposal of woody market
- Forest owners approach to clearance of infested wood by bark beetle
- High rotation period of Norway spruce forests

Harvested timber reserve in the
end of March (m³)



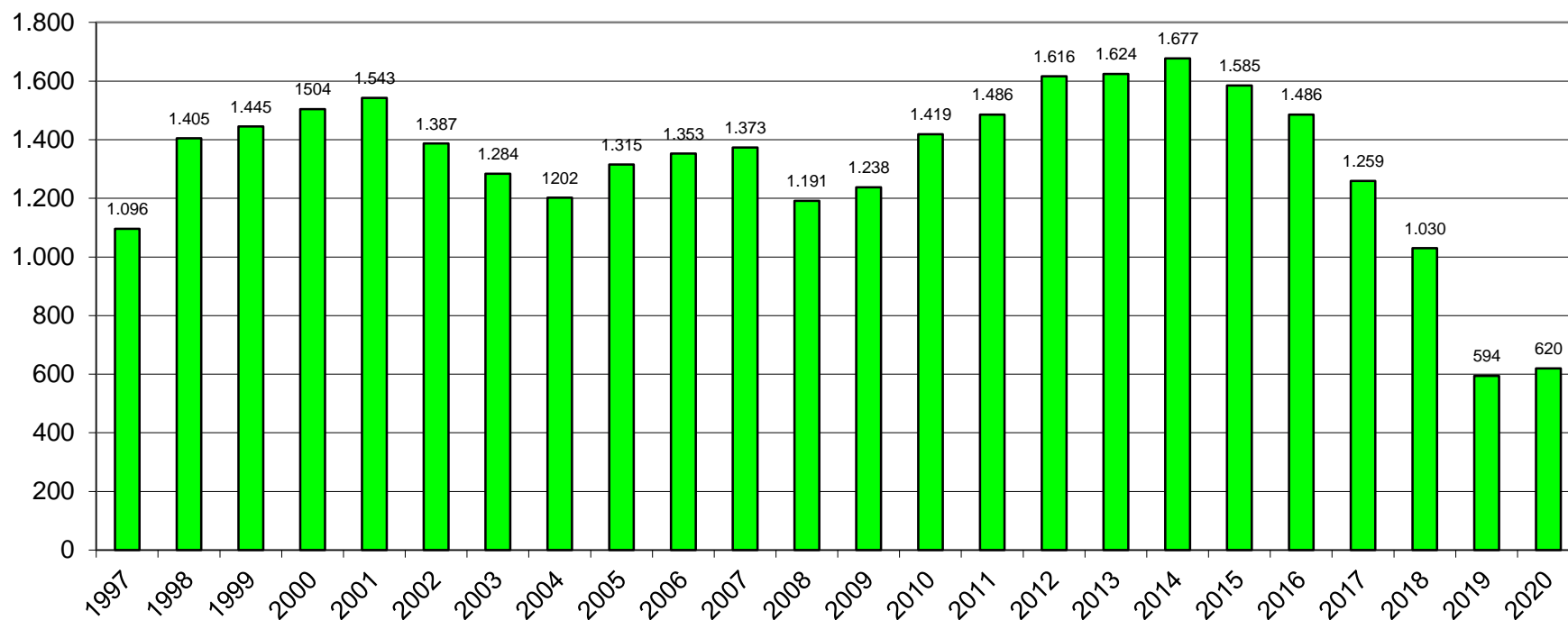
Impact on Economy

- Total devaluation of forest owners property
- Decision of owners - what to do, how to finance own property
- Occurrence of clearcuts at the 60 % of enterprise area (509 ha)
- Financial loss on selected wood over 100 mil. Kč
- Regeneration expenses until forest safety 122 mil. Kč
- During the two years of 2018-2019 the project „*Evaluation of forest status and forest functions of chosen forest enterprise under changing ecosystem conditions*“ was realized at 380 ha
These evaluated losses on forest ecosystem functions reached 95 mil. Kč



Selling price of wood during 1997-2020

Kč



Profit from harvest of drought spruce forest per ha (ca 400 m³) 66 th CZK
 Regeneration expense (until safety) per ha 241 th CZK
 Operating results per ha - 175 th CZK



Concept of management changes

Shift of forest vegetation zones

Revision of typological system mapping

Transformation of target tree species composition

Changes of Frame management directions:

- a) shortening of rotation period
- b) rich forest mixtures
- c) group mixture (pattern of 0,20ha)
- d) target tree species –oak (Sessile, Pedunculate)
- e) European beech, Sycamore maple, Scotch pine, Douglas fir, European larch, White fir



Concept of management changes more in detail



Target Management Unit 43

- Tree species composition: Beech 2-3, Pine 1-2, Fir 1-3, Larch 1-2, Douglas fir 0-2, Spruce 0-2, Oak, Cherry
- Multi-cohort forest stands, group mixture evenly distributed across the forest stand area
- Rotation period 90 years (Norway spruce), N. spruce – naturally regenerated
- Rotation period 100 years (Scots pine), natural regeneration, seed trees, soil preparation
- Rotation period 120 years (European beech)

Concept of management changes more in detail



Městské LESY Dačice

Target Management Unit 45

- Tree species composition: Oak 3-4, Beech 1-3, Fir 1-3, Spruce 0-2, DG fir +-2, Larch 1-2, Sycamore 0-1, Lime +, Cherry +
- Rich mixtures, intensive treatment
- Shortening of rotation period from N. spruce (80 years), others 100-120 years according to stands status
- In current monocultures of N. spruce do not remove admixed tree species
- Sparced cultures refill by Douglas fir, European larch

Concept of management changes more in detail



Target Management Unit 53

- Tree species composition: Spruce 1-4, Beech 1-2, Fir (white, grand) 1-2, Larch 1-2, DG fir 0-1, Lime +-1, Oak +-1, Pine +-1, Birch, Cherry
- Create and support conditions for natural regeneration
- Multicohort stands
- Reduction of rotation period from N. spruce to 90 years
- During tending of forest support admixed tree species (Birch)

Concept of management changes more in detail



Městské LESY Dačice

Target Management Unit 55

- Tree species composition: Beech 1-4, Spruce 1-3, Fir 1-3, DG fir 1-2, Larch 1-2, Sycamore +-2, Birch +-1
- Forest weed pressure on natural regeneration
- Replacement of spruce by beech
- Reduction of rotation period to 90 years
- Support of pioneer tree species
- Sparcse cultures improve by other target tree species

Afforestation (%)

	1997-2004*	2005-2019	2015-2020
Norway spruce	58	41	34
European beech	8	9	25
Oak pedunculate/ sessile	6/0	9/0	12/1
Red oak	0	3	2
Sycamore maple	10	15	6
Douglas fir	0	3	1
White fir/ Grand fir	0/0	5/0	4/5
Scotch pine	0	8	-
European ash	3	4	-
Lime tree	4	-	0
European larch	2	1	5
Wych elm	0	0	2
Common alder	0	2	2
Cherry	-	-	1

*some Blue spruce, Hornbeam

0 - representation below 1 %





Městské **LESY** Dačice

