

Exemplary Forests

Mexikó-pusztá

Hungary

I. Contacts

Forest manager: *Peter Csépanyi* (Mobil: +36 20 9846 006, csepanyi.peter@pprt.hu)

Research organization: (institute, university, other): *Pilis Park Forestry Company* (state forestry organization)

II. Location:

Country: Hungary

Forest name: "Mexikó-pusztá"- Pro Silva Exemplary Forest

Address: -

Co-ordinates: WGS84 18.859444, 47.722778

III. Site description:

Area: 9.74 ha

Species composition:

- DBH \geq 12 cm: beech 67%, sessile oak 21%, hornbeam 7%, other broadleaved 5%,
- DBH < 12 cm beech 60%, sessile oak 5%, hornbeam 20%, other broadleaved 15% (sycamore, mountain ash, wild cherry ect.)

Management practiced:

Continuous cover forest management – single tree selection

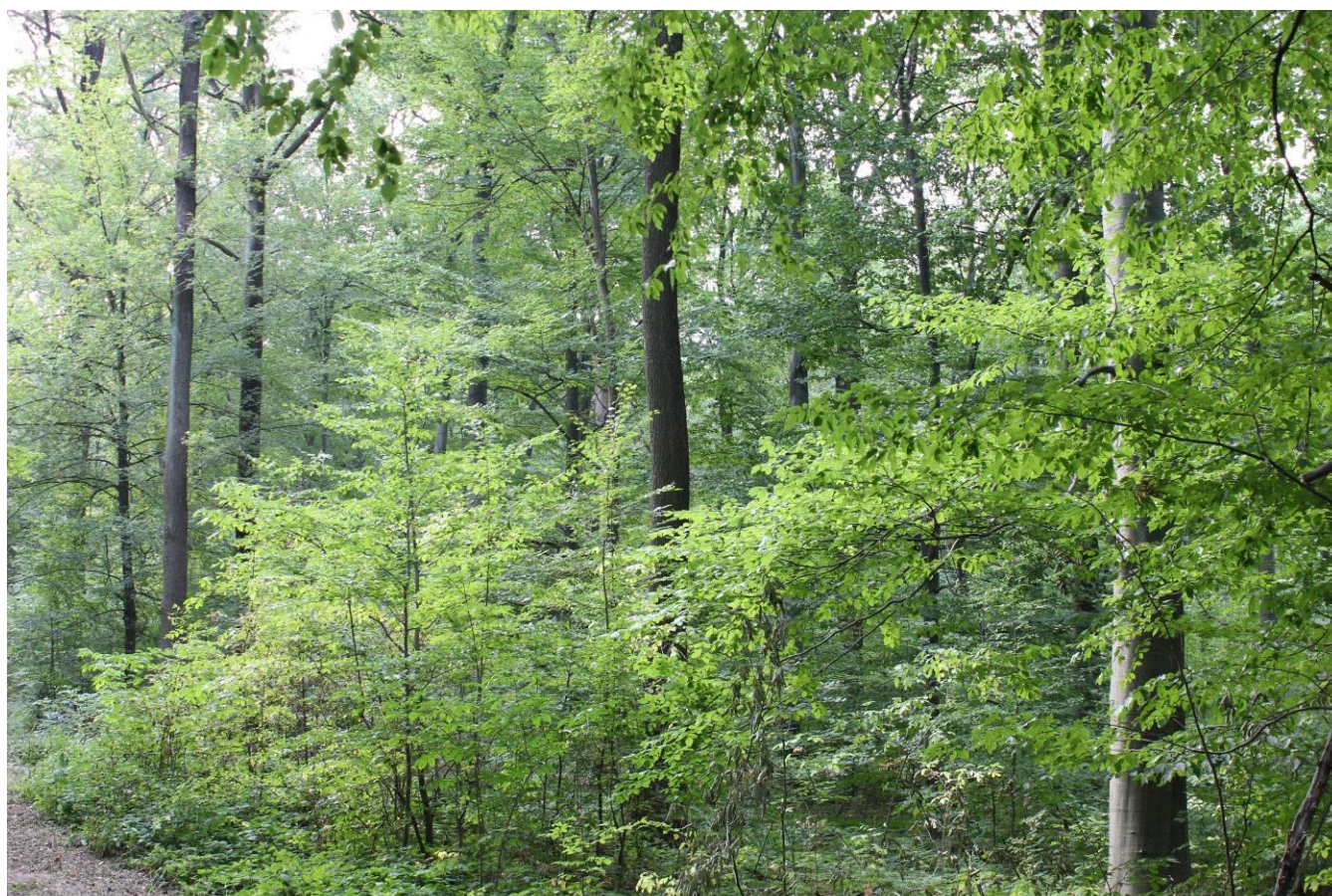
History of forest management:

In that region, the forests were owned by Hungarian Religion and Public Endowment and managed by the Forest Stewardship of Pilismarót until 1945. The forest area was nationalized. in 1945. The traditional age class management lasted until 1998. The introduction of the selection method and Pro Silva principles was started in 1999. Before 2002 the exemplary forest was represented as

Pilisszentlélek 25A (6,4 ha) and 25B (3,6 ha) compartments, in 2002 the two compartments were merged). On this area, late thinning interventions were carried out in 1975, in 1976, in 1984, and in 1992, and the first regeneration cutting was achieved on a little part of the area in 1998. A stripe for road construction was felled out 40 years ago but was never finished. Consequently, the forest was regenerated spontaneously on that forty-meter-wide stripe. Three age group would have been found, the 98 years old main stand, the 40-50 years old stripe, and groups under 40 years due to the thinning interventions. The conversion of the even-aged high forest to uneven-age high forest started in 1999.

IV. Additional materials:

Photos:



1. Figure. A typical picture of the stand (Photo: Peter Csépanyi)



2. Figure. A beech target tree reaches the target DBH (Photo: Peter Csépanyi)



**3. Figure. A new spot, that ensuring the long-term replacement of oak target-trees in controlled fenced spots (punctually)
(Photo: Peter Csépanyi)**



4. Figure. A 14 years old controlled punctual oak natural replacement (Photo: Peter Csépanyi)



5. Figure. Oak target-tree with 74 cm DBH, target diameter 80-100 cm (Photo: Peter Csépanyi)

Documents:

ACTUAL MANAGEMENT PLAN (2016-2021)

Subcompartment (name): Esztergom-Pilisszentlélek 25A

Stand structure:

Stand (DBH ≥ 12 cm):

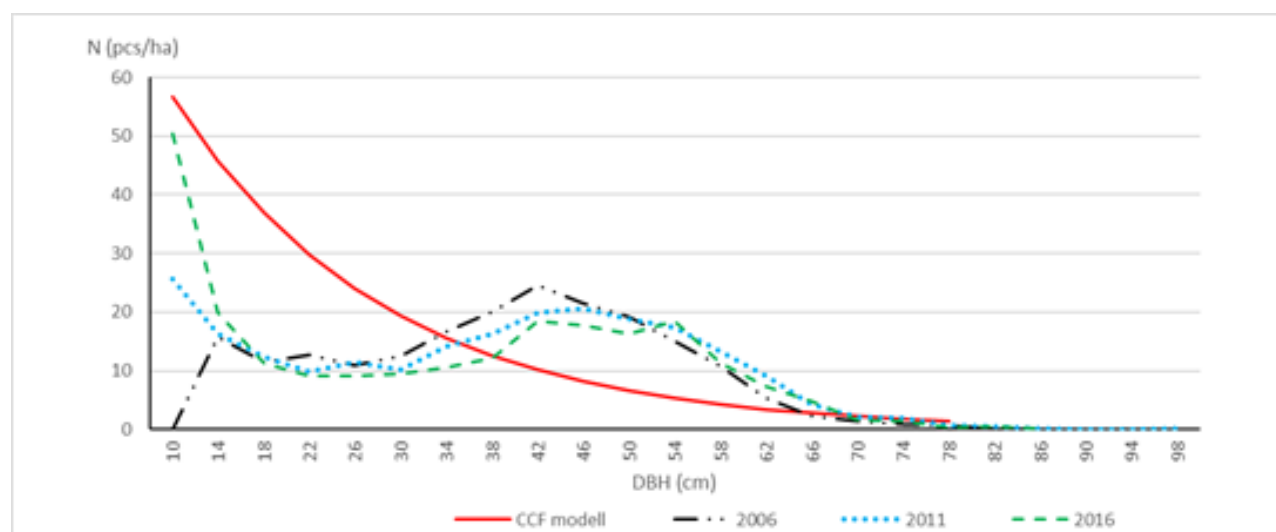
Stem distribution: in 42-66 cm DBH classes high, under 38 cm (DBH) strongly underrepresented

Living stock 443 m³/ha, too rich

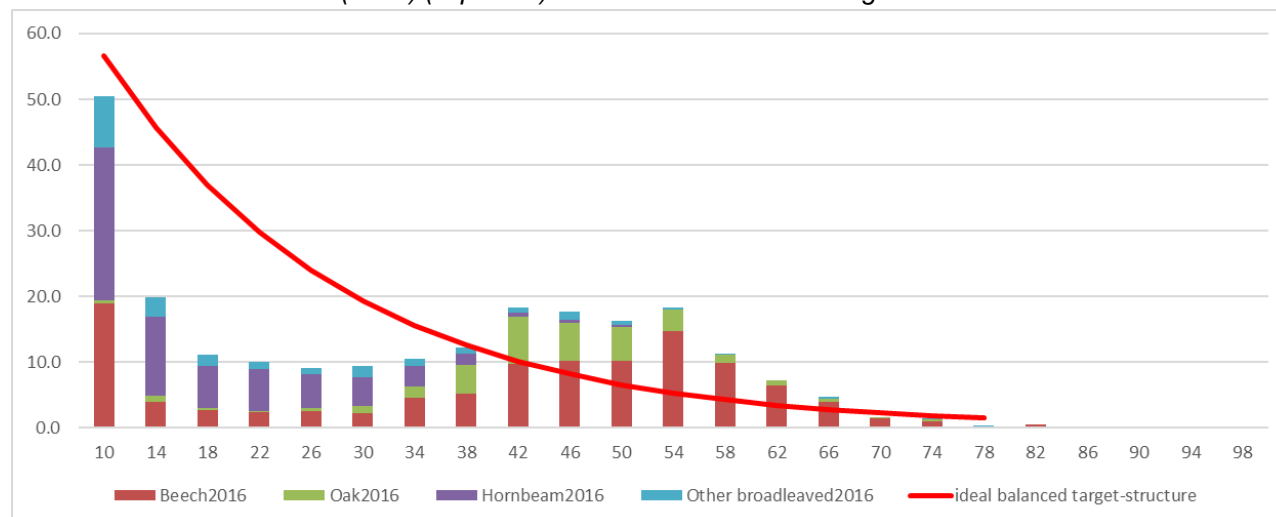
Health condition: suitable

Tree composition: Beech 67%, Sessile oak 21%, Hornbeam 7%, other broadleaved 5% (from basal area)

Available data and continuous monitoring: There were 3 times full inventory (2006, 2011, 2016)



Actual diameter distribution (2016) (N pcs/ha) and the ideal balanced target-structure:



Under-storey (DBH < 12 cm):

- H: 10-150 cm: covers 40% of the area. Tree-composition: Beech 60%, Oak 10%, Hornbeam 20%, Other broadleaved 10% (Sycamore, Common ash, Wild cherry, etc.)
- H 150 cm – DBH 11 cm: covers 40% of the area. Tree-composition: Beech 60%, Oak 5%, Hornbeam 20%, Other broadleaved 15% (Sycamore, Common ash, Wild cherry, etc.)

Stand characteristics:	
Living stock (bm ³ /ha)	443
Actual basal area (m ² /ha)	26
Annual yearly increment (m ³ /ha/y)	10
Cycle of returning (Felling cycle) (year)	5
Increment in the time cycle (m ³ /ha)	50
Living stock maintenance (reduction, keeping, increase)	Gradual decrease
Intervention volume (m ³ /ha)	70
Intervention intensity (Living stock %)	16

Targeting:

- Target tree-composition: Beech 50%, Oak 25%, Hornbeam 10%, Other broadleaved 15% (Sycamore, ash, wild cherry)
- Target living stock: ~300 m³
- Target basal area ~19 m²/ha
- Target diameter: 60-80 cm (oak 70-100 cm)
- Gradual decrease of living stock
- Ensuring the development of natural seedlings and the recruitment

Cycle of returning (felling cycle), intervention volume and intensity:

- The length of the cycle of returning: 5 years.
- The maximal intervention intensity has to be determined by considering the stand stability. Due to the experiences, the intensity of 20% must not be exceeded.

Diameter distribution of the intervention:

- Considering the actual and the ideal target-structure (DBH-distribution) the intervention has to focus on the primarily the inferior quality stems in DBH classes between 42-66 cm.

Regulating light and managing the under-storey

- Supporting the oak recruitment punctual, and the noble broadleaved mixture tree species.

V. Scientific publications

Csépányi P. Csór A. (2017): Economic Assessment of European Beech and Turkey Oak Stands with Close-to-Nature Forest Management (DOI: 10.1515/aslh-2017-0001)

Szentendre, 30.08.2019.

Péter Csépányi