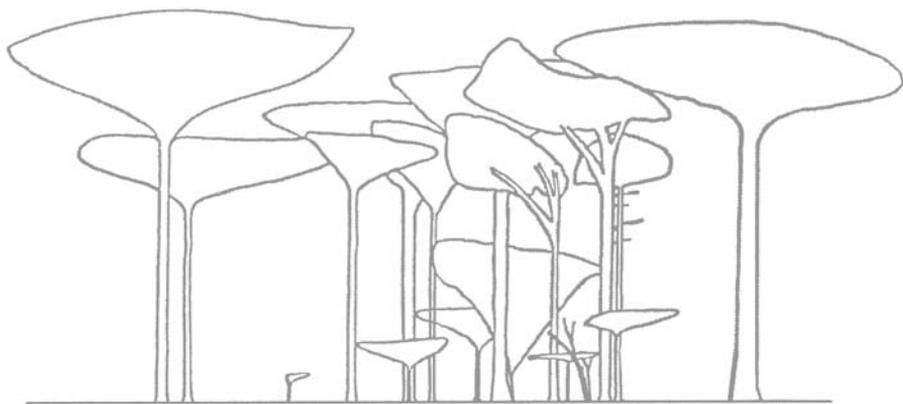


Az erdőrezervátum- kutatás eredményei

Results of Forest Reserve Research in Hungary

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TARTALOMJEGYZÉK

BORHIDI Attila & HORVÁTH Ferenc – Szerkesztői előszó	5
BORHIDI, Attila & Ferenc HORVÁTH – Preface of the editors.....	6
CZÁJLIK Péter – Kékes-Észak erdőrezervátum és térségének története: egy őserdőfragmentum fennmaradása	7
Összefoglalás.....	7
Summary	8
Bevezetés.....	9
Anyag és módszer.....	10
Birtokviszonyok és erdőtörténet.....	12
<i>A XVII. századot megelőző időszak (...–1603)</i>	<i>12</i>
<i>A felsővadászi Rákóczi-család birtoka (1603–1710).....</i>	<i>14</i>
<i>A Grassalkovich-család birtoka (1741–1841)</i>	<i>15</i>
<i>A Károlyiak korszaka (1840–1919).....</i>	<i>21</i>
<i>Az I. világháborút és Trianont követő korszak (1919–1945).....</i>	<i>37</i>
<i>A MÁLLERD korszaka (1945–1950)</i>	<i>47</i>
<i>Rákosi korszak (1949–1953).....</i>	<i>53</i>
<i>Az erdőgazdálkodás termőhely-ökológiai alapozásának korszaka (1953–1969).....</i>	<i>57</i>
<i>Az új gazdasági mechanizmus kezdete és az ősi terület fokozódó fragmentálódása (1966–1980) ...</i>	<i>63</i>
<i>A természetvédelem megerősödése (1980–1991)</i>	<i>79</i>
<i>A KTM–FM Országos Erdőrezervátum Bizottság munkájának és a hazai erdőrezervátum hálózat létrehozásának időszaka (1991–2000).....</i>	<i>80</i>
Értékelés.....	83
Köszönetnyilvánítás.....	86
Irodalom	86
CZÁJLIK, Péter & Gabriella PÁSZTY – Extended summary of the Kékes-Észak Forest Reserve and the surrounding region’s history: survival of a virgin forest fragment	97



EXTENDED SUMMARY OF THE KÉKES-ÉSZAK FOREST RESERVE AND THE SURROUNDING REGION'S HISTORY: SURVIVAL OF A VIRGIN FOREST FRAGMENT

Péter CZÁJLIK – Gabriella PÁSZTY

INTRODUCTION

Present manuscript is the first, introductory part of a series of studies, which demonstrates the results of the „Vásárhelyi István” Nature Conservation Group’s research project carried out in the Kékes-Észak forest reserve. The goal of the manuscript is to reveal the history of the forest reserve and the surrounding region. It aims at giving a clearer view of the present state of the area, a better understanding of the natural processes that take place here, and showing the extraordinary significance of the Kékes-Észak forest reserve.

Forests near the village Parád (Mátra Mountains) have survived to recent years

as a large piece of contiguous forest in semi-natural state. Kékes-Észak forest reserve is one of the last remnants of this woodland. Although the fauna of the forest reserve and its surroundings has gradually impoverished from the 1820s, stand structure has developed spontaneously, free from any human intervention.

The core area* of the Kékes-Észak forest reserve is a virgin forest (Urwald) according to the directives of the European COST Action E4: Forest Reserves Research Network (BÜCKING *et al.* 2000), a virgin forest remnant or fragment according to my own definition.

* Except for the subcompartment Parád 26D, which was clearcut in the 1960s.

MATERIAL AND METHODS

Data collection started in the 1960s, confining at that time principally to field survey and discussions with people working in the region's forests. The first, comprehensive historical study was published by SAGHI (1978a, b). Based on his work, the search for related sources and literature began. In 2005, a book written by Sandor Toth was published (TOTH 2005), which cast new light on several facts of the region's history. This led to a new revision of the manuscript.

I divided the history of the region into 11 eras. The history of the Parad forests was often determined by the actual national forest policy and the historical and humane aspects of key persons. Therefore, in each era I present the most important landowner of the area, the relevant aspects of society, forestry and forest economy, and the effects of Hungarian forest policy on the Parad forests.

Landscape features also affected the history of the forest reserve and the survival of the natural tree stands. The core area of Kekes-Eszak forest reserve (strict forest reserve) covers 54.8 ha. It lies northward of the principal ridge of Kekes peak, on the steep, rocky northern slope of the mountain ridge. Its highest point is at 980 m a. s. l., while its lowest part lies at 760 m a. s. l. The area can be approached from the villages of Parad-Ohuta and Parad, which lie in the valley, 3–5 km far from and 500–700 m lower than the reserve. Roads leading to the reserve were built as late as the 20th century.

OWNERSHIP AND FOREST HISTORY

Before the 17th century (... –1603)

The area was presumably inhabited thousands of years ago, as it is indicated by the Iron Age fossils excavated at Recsk. Written records about settlements in the Parad forests are available from the 14th century, when the Debrey (Debroi) family was the landowner of the area. Later, ownership shifted from one landlord to another. Parad village was founded in the 15th century, and was documented to house thirteen married men in the 16th century.

In the late 13th century, the Matra Mountains were covered in vast, continuous, primary forests of roughly 600–700 km². Their fauna was dominated by big game (bear, red deer, roe deer, wild boar) and game of prey (wolf, lynx, wildcat, fox, pine marten, ermine, beech-marten, weasel). This natural state of the fauna persisted until the mid-19th century (CSIFFARY & SCHWALM 2001).

Domain of the Felsovadasi Rakoczi family (1603–1710)

In 1603, the area was passed into the ownership of the Rakoczi family. During the Turkish occupation of Hungary, the population of Parad gradually decreased.

The village was deserted between 1683 and 1686, and then repopulated. In 1701, approximately 40 adults lived in the village, who kept their livestock (cattle, pig, sheep and goat) in forest pastures. In 1710, all properties of Prince Ferenc Rákóczi II were confiscated and the estate was temporarily given to the Aspremont family. In the following period the village became depopulated once again and then repopulated from Gömör County. In 1720, 7 households existed at Parád, 100 cattle were kept in the forest pastures, and 30 swine were masted in the manorial forests.

The glassworks established in 1710 operated in the area of the present Parád-Óhuta until 1768. Wood for the production of wood-ashes, potash and firewood for melting was profoundly supplied from the forests around Parád (CSIFFÁRY & SCHWALM 2001, SÁGHI 1978a, b).

Estate of the Grassalkovich family (1741–1840)

In 1740, Baron Antal Grassalkovich bought the Debrő domain. This was the period when Parád started developing intensively. New manufactures were established in the area: two potash-works, ore mines, an alum mine, a brick-works and a saw-mill. Wood was supplied largely from the Parád forests. The increasing utilisation of the region's forests started at this time. Charcoal was also burnt intensively in the Parád forests in the early 19th century. The population of Parád tripled, from

300 to approx. 920 inhabitants during the Grassalkovich era (CSIFFÁRY & SCHWALM 2001, BOROVSKY 1909).

In the 18th century, regulations were issued in favour of forest protection. To stop deforestation, the export of potash was curtailed in 1755. The regulation of socage, issued in 1767 by Maria Theresa, regulated among others, forest use and pasture size. In 1770, several regulations were issued by Maria Theresa and the Royal Council of Governors on forest management planning and supervision, which ordained to make maps of the free royal towns' forests and regulate cuttings according to these maps. In 1791 and 1807, laws were made to prevent the devastation of forests.

Based on the present state of our knowledge we can declare that neither the village nor its animal stock imposed serious burden on the inner forests of the mountain or their flora and fauna until 1770. Thus, a more intensive, but at the same time regulated exploitation of the Parád forests took place only after Maria Theresa's provisions for the protection of forests.

The First Military Survey of 1783 described the Parád forests as thick and impenetrable (JANKÓ 2004) (*Fig. 1*). According to a document from the 19th century the griffon vulture hatched annually on Saskő, near Kékes, and on Bagolykő. In 1799, Pál Kitaibel completed the natural description of the Mátra Mountains. During his research he collected chiefly from the region around Parád and from Sár-hill, near Gyöngyös (KITAIBEL 1799, KANITZ 1862–1863, Soó 1937).

The Károlyi era (1840–1919)

From 1840, the domain was leased and then in 1854 it was bought by György Károlyi. After his death in 1877, his son, Gyula Károlyi inherited the Debrő estate. The population of Parád village increased from 900 to 2300 persons. Between 1856 and 1865, owing to the emancipation of serfs and the following enactment of the socage regulation, a small portion of the

demesne: 110 cadastral acres (63 ha) of forest and 646 cadastral acres (372 ha) of pastures around Parád were given to village dwellers (Fig. 2) (BOROVSZKY 1909, ALBERT 1868).

The so called Forest Act of 1879 ordered the management of private forests under state supervision, this way ordaining adherence to management plans supervised by the state forestry in 64% of the country's forests. For 40 years, all other human disturbance

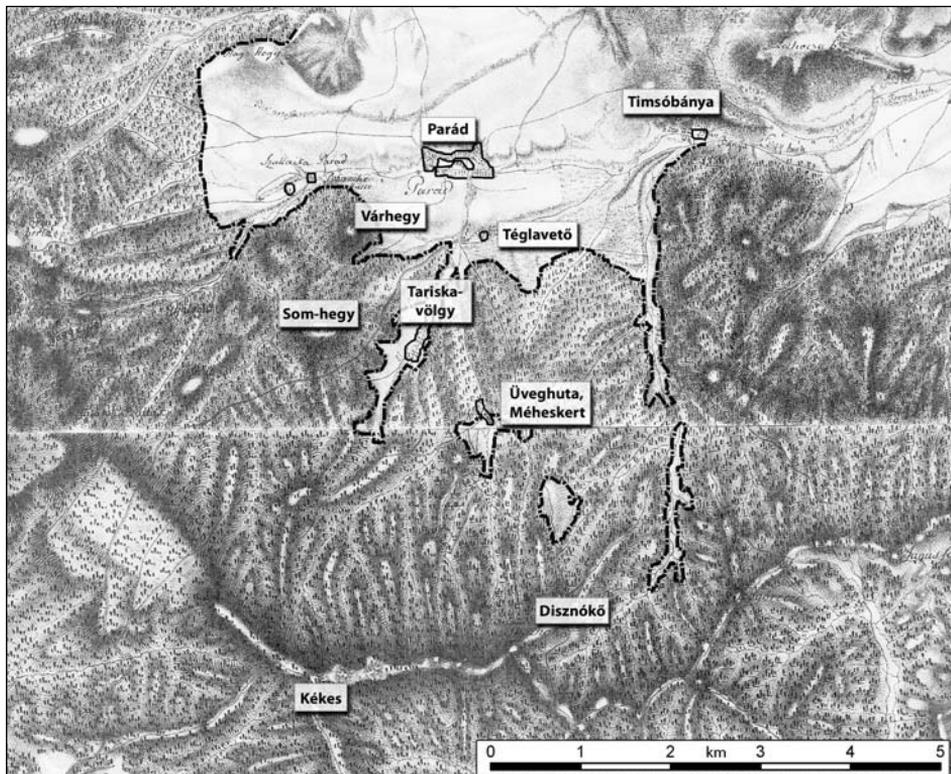


Figure 1: Map of the First Military Survey, 1783 (Parád). Dotted line marks the boundary of the manorial forest at Parád village. In the huta (Hutta) region pastures are shown only below the altitude of the late glassworks (Glas-hütte, Méheskert today).

was strictly restricted in these forests. The establishment of 'protection forest' was also enacted. This resulted in the protection of natural flora by law in 283 000 hectares of forest in Hungary. Management plans prove that tree harvesting and grazing were officially strictly prohibited in protection forests from 1879.

In 1907, the Hungarian Forestry Association put forward a proposition to the Minister of Agriculture 'in order to

preserve fragments of virgin forest'. At the same time, the Hungarian Society of Natural Science made a similar proposition. Between 1910 and 1913, the Hungarian Royal Forest Directorate designated some of the mostly intact protection forests as natural monument, and one year later 20 virgin forest remnants were designated. From 1918, forest harvest and exploitation were restricted by government regulation.

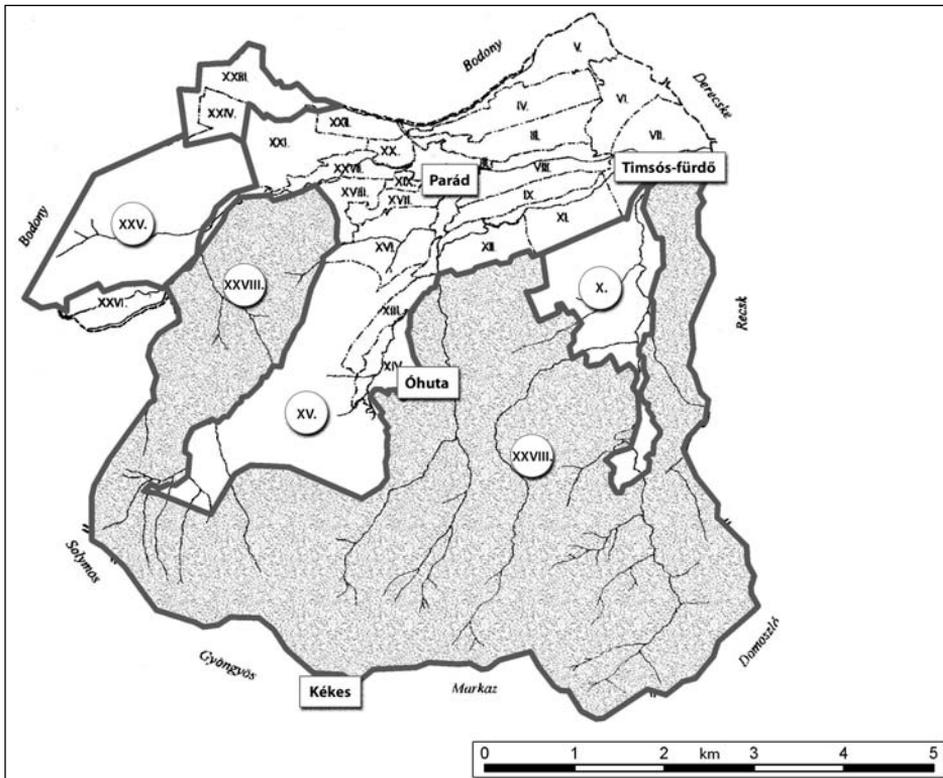


Figure 2: First cadastre map of Parád village from 1888. No. XXVIII denotes contiguous woodland, no. XV marks a municipal pasture earlier used for forest grazing, no. X stands for the Sándorréti manorial, and no. XXV indicates the Fényesi manorial.

The forestry of Parád disposed of 5600 Hungarian acres (2419 ha) of forest in 1868. Beech was predominant with a varying mixture proportion of sessile oak and Turkey oak. In the ornamental and protection forests surrounding Parádfürdő Norway spruce, black pine and Scotch pine became stand-forming tree species. Hornbeam, birch, alder and poplar were subordered species. In the mid-19th century, the Károlyi family gave orders on forest management: to cut only the necessary amount of tree, to leave mast forests in-

tact even where wood was expensive, to replace thinning with regrowth, to make cuttings in November and December, and to treat forests carefully. Forest use focused mainly on firewood production and to a lesser extent on the production of oak construction wood, wheel-making and industrial hardwood, carved wood, and burned charcoal, to cover the needs of the manorial glassworks and agriculture. Turkey oak coppices were managed with 50 years rotation, beech forests were managed in coppice with standard

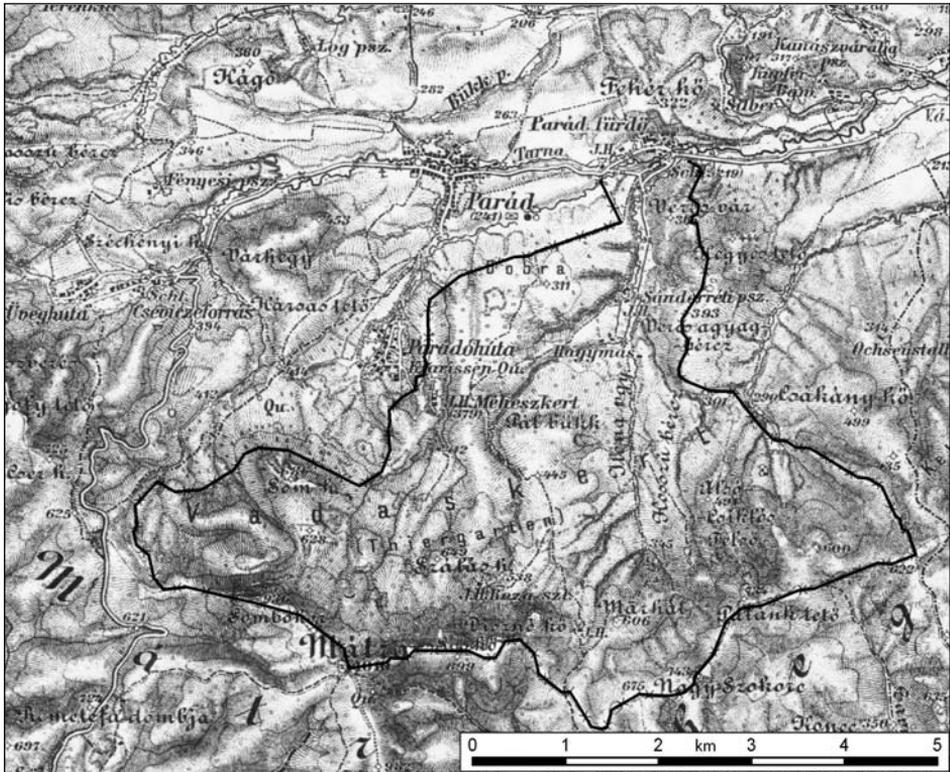


Figure 3 Map no. 4864 (Royal State Mapping Institute of Hungary) of Gyöngyös and Verpelét at 1 : 75 000 scale, marking the boundary of the Wildlife Park. Updated for 07/11/1925.

system with 80 years rotation using seed cuttings. This system kept forest soils in better productiveness. Between 1888 and 1895, 76 hectares of forest were planted to fill up cuttings. Much attention was paid on oak afforestations as well. The relief of the estate made all kinds of artificial extraction impossible, which explains why the long-intended light railway was not built (TAGÁNYI 1896).

According to FUCHS (1861), significant areas of virgin forest have survived in the Mátra Mountains. In the 1870s, almost 4000 cadastral acres (2302 ha) of forest were enclosed for Wildlife Park (ELEK 1909). The present Kékes-Észak forest reserve is situated in the further- and uppermost corner of this enclosure (Fig. 3). Mile-long paths lead through the lower parts of the Wildlife Park, while a contiguous one third of the Wildlife Park was left for protection forest.

In the late 19th century, red deer, that had gone extinct earlier, was reintroduced in the Mátra Mountains. In 1893, 4-500 red deer were known in the Wildlife Park (CSÖRE 1997, SZEDERKÉNYI 1893). The last pack of wolves in the area was mentioned in 1870, while the last record of bear in the Károlyi demesne dates from 1904.

Era following the First World War and the Treaty of Trianon (1919–1945)

In 1921, the Horthy regime confiscated the domain and sequestered it until 1929. A few years after the confiscation, the heirs

of the Károlyi family sued the Hungarian state. They won their case, but after the settlement of their claim, the Wildlife Park was passed into the ownership of the meanwhile established National Foundation for Public Education (Fig. 4) (BARCZA & VIGYÁZÓ 1930, VIGYÁZÓ 1929).

The First World War and the following Treaty of Trianon had great influence on Hungarian forestry, and the practice and aims of silviculture. No other branch of economy was shaken to its very foundations like Hungarian silviculture, because the Treaty of Trianon completely changed the arrangement and distribution of the country's forests. Hungary lost the ring of the Carpathians, the forests that had fed the treeless Great Plain with wood for centuries. For long decades, government policy had focused large estates and especially public large estates in the wooded parts of the highlands, while in the lowlands it hadn't hindered the encroachment of the land-hungry agriculture on forests. Following the Treaty of Trianon, the state lost 96% of its professionally managed forest property. A large portion of the forests left had not been cultivated according to management plans. Therefore, the ratio of forests lacking supervised management increased from 36% to 51%. Moreover, the cultivation scheme of the hill and lowland forests that remained within the new boundaries of the country was not elaborated (BÍRÓ 1930, KERESZTESI 1982). As a result of these adverse silvicultural conditions, progressive forest engineers worked out a forest economical policy,

with the leadership of under-secretary Károly Kaán. The most important items of this policy were: tree planting in the Great Plain, reafforestation of bare lands, replacement of clear cutting system with regeneration cutting system, and the legal extension of management plan based silviculture over all forests in the country (KAÁN 1920, 1929, 1932).

Between 1922 and 1944, the confiscated estate was directed by the excellent forest

engineer, His Excellency Government Commissioner, Béla Térfi. Between 1920 and 1945, forest engineers of the late Károlyi estate paid special attention to the natural regeneration of beech and oak stands. Trees were marked for cutting individually in the summer when regrowth was well visible and could be taken into consideration. The fact that an experimental area for strip selection cutting, studied by Gyula Roth, was situ-

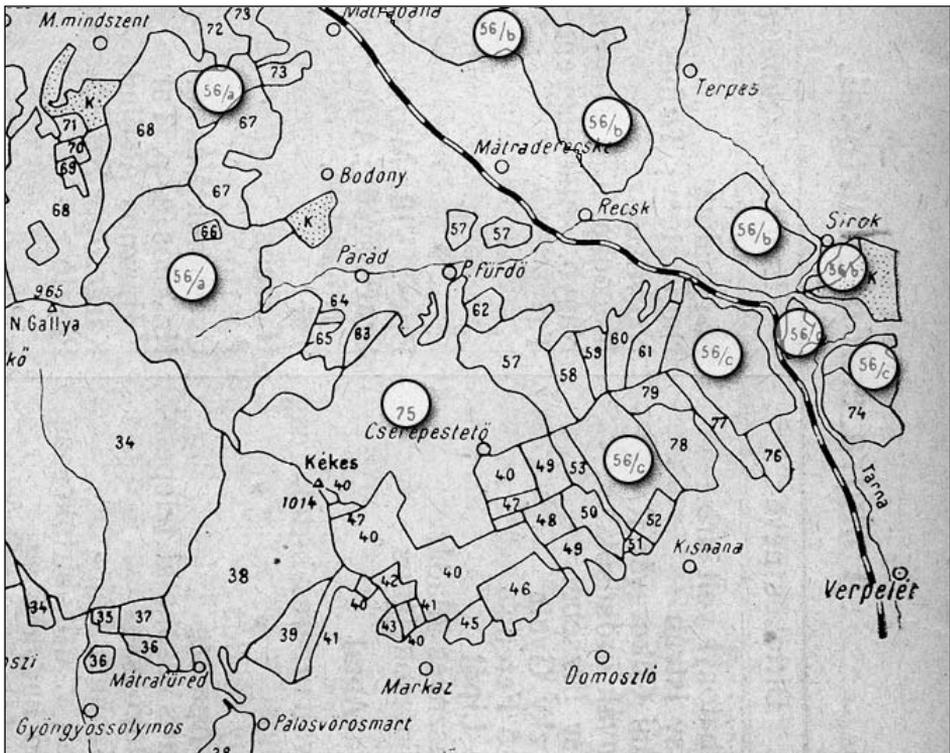


Figure 4 Map showing the Károlyi estate in 1930. From Barcza & Vigyázó's map on forest estates in the Mátra mts.; scale 1:300000. The confiscated woodlands of the Károlyi estate were merged into the following four forest directorates: 56/a: Hungarian Royal Treasury (Fényes farmstead), 5157 cadastral acres; 56/b: Hungarian Royal Forestry (Sirok), 3491 cadastral acres; 56/c: Hungarian Royal Treasury (Kökút farmstead), 1255 cadastral acres; 75: National Foundation for Public Education (Parádfürdő, Sándorrét), 4476 cadastral acres.

ated in the Haluskás forest fragment of Parád, shows the expertise and modern view of the forest engineers of the Parád domain (RÓTH 1936).

This was the time when organised mass tourism appeared in the Mátra region (MISÓCZKI 1999, ZSEMBERY 1930). According to a document from 1929, a marked recreational trail led through the steep rocky slope of the Kékes peak and the primeval beech forest to the observation tower (VIGYÁZÓ 1929). To a certain extent, this brought human influence closer to the forest reserve. In the winter of 1923/24, mouflon was introduced in the Wildlife Park (MÁTRAY 1929).

The forest stands in the core area of the Kékes-Észak forest reserve were largely unaffected by these events. The only exception was the east-westerly dirt road built for serving winter sports. However, the dirt road was out of use most of the year.

The MALLERD era (1945–1949)

Government regulation No. 600/1945 nationalised all forests in the country. The Hungarian State Silvicultural Works (Magyar Állami Erdőgazdasági Üzemek, hereafter called MÁLLERD) was established to ensure planned state forest management. The National Foundation for Public Education ceased to exist, and thus the Parád forests went into the ownership of the newly established Egri State Forest Directorate. The above government

regulation also declared that wherever there was a lack of agricultural land to fill up the needs of landless peasants, it should be compensated from state forest. This way, the inhabitants of Parád village formally received 1555 cadastral acres (895 ha) of commonly owned forest, which later the state bought back (CSIFFÁRY & SCHWALM 2001, SÁGHI 1978b).

After the First World War, the Parád forests once again played a prominent role, this time not only in local interest, but in the reconstruction of the country. They supplied thousands of cubic meters of railway ties, pit wood for coal mining, and saw wood to the sawmills. And last but not at least, the Parád forests provided the Parád glassworks with firewood. Tree harvest was carried out by the forestry offices themselves, who, after harvesting the Haluskás and Kékes-oldal forest subcompartments, creditably ensured the natural regeneration of oak and beech.

The goal of the first Three-Year Plan, 1947, was to finish reconstruction and to reach pre-war standards in forestry terms. This meant the decrease of accumulated arrears in forest regeneration, and the decrease of the earlier excessive felling target.

The supervision of hunting was closely related to forest management units in the frameworks of the MÁLLERD. Game management was based on big game areas managed by the forestry, on reserves, and allocated areas. The protection of big game and the repopulation of hunting areas were outstandingly important.

In 1945, the reorganization of hunting began with the designation of hunting areas, the formation of hunting societies, the survey of game population, the fight against poaching, and the organisation of hunting arms supply. Areas with a valuable game stock were designated as reserves. In 1947, the majority of the Parad forests were ranged with the group of hunting areas sold for shooting license, among the „private” hunting areas of the MALLERD Centre (TOTH 2005).

In the period of 1945–1950, the first attempts were made for mechanized logging and transportation. An access road was built in the Kekes side, this way the total inner part of the Wildlife Park became accessible. This 13 km long macadam road (the present ‘Hurok ut’, Fig. 7) was finished in 1949, and facilitated the harvesting of the Wildlife Park tree stock to a great extent. This meant that a prominent part of the 2000 ha, once contiguous, inaccessible, primeval Wildlife Park forest fell victim to post-war country reconstruction (HALASZ 1982, MADAS 1978).

Rakosi era **(1949–1953)**

The Ministry of Agriculture and the related MALLERD were completely reorganised in 1948–49. Six national companies coordinated by the Forest Economy Centre (the so-called Forest Centre) were established; the Forest Centre was lead by a worker-cadre.

The first Five-Year Plan for the years 1950–54 aimed at increasing growing stock through the afforestation of old felling sites, planned regenerations, and new plantings. Felling target was determined by the supreme leadership without consulting experts. In 1951, the aims of the first Five-Year Plan were modified by law: the extent of afforestation and felling was further increased. This high ratio of harvesting exceeded the likely increment calculated from the available data by 600 cubic metres. The plan regarding tree harvesting was fulfilled. Increased afforestation plans were realised to 97.5%, although old felling sites were largely neglected, which facilitated the degradation and erosion of undisturbed forest soils (HALASZ 1982, MADAS 1978).

The co-ordination of hunting was also subject to permanent criticism and reorganisation in this era. At the end of 1951, the Council for National Economy ordered to cease almost all game reserves, including the Wildlife Park (TOTH 2005).

Nature conservation in Hungary was given new impetus after the Second World War, in 1949. Among others, the semi-natural forests that had been designated protection forests by the Act of 1879, became legally protected. However, some of them had already fallen victim to excessive harvesting following the Second World War. Between 1950 and 1960, huge areas were clearcut at the northern and western borders of the Kekes-Eszak forest reserve core area, which resulted in an adverse edge effect for 40–50 years.

Era of forest typology based silviculture (1953–1969)

A joint project of botanists, pedologists and foresters was set off in 1953: the site mapping of Hungarian forests, coupled with fifteen years of extraordinary professional development in Hungarian silviculture (BABOS 1954). In 1954, a government regulation was established to determine the actions to be taken for the improvement of the forestry sector. These actions included the spreading of regeneration cutting, the modern, intensive tending and regeneration of existing forests, the creation of mixed stands, and the spreading of site-compatible, fast-growing tree species (black locust, hybrid poplar). The 2nd Three-Year Plan for the years 1958–60 focused on afforestation and poplar planting. Further aims were the regeneration of old felling sites, the conversion of degraded forests into valuable ones, protection against game damage, and the increase of felling target by 4–5% predominantly in degraded forests to decrease over-exploitation in high-value beech and oak stands. The 2nd Five-Year Plan for the years 1961–65 ordained the increase of felling target and the development of wood products industry, principally through poplar planting. The planned afforestations were not completed, but the planned felling target of 9% was increased to 15%.

At the beginning of the era, much attention was paid on plant association based site evaluation, and the use

of Majer's forest typological system in silviculture (MAJER 1962). Hungarian foresters revealed and explored the natural system of the country's forests, and laid the foundations of close-to-nature forestry based on site ecology. The results of these surveys are documented in the book entitled *Directives and Procedures of Forest Regeneration and Planting for the Forest Regions of Hungary*, which comprises 7 volumes (DANSZKY 1963a). Within this book 12 natural forest types are described for the beech zone of the Mátra forest region, and 16 ways of forest regeneration and planting are associated with them. This was the first instance when coniferisation appeared, but this time it was restricted mainly to hornbeam dominated stands (DANSZKY 1963b).

In 1954, the National Forestry Chief Directorate designated the Parád forestry a mechanised forestry. A machine depot was planted in the centre of the old Wildlife Park, which served mechanized tree harvest in the Mátra forests.

The remaining, almost intact, virgin forest fragment of the Kékes peak was declared protected by the National Regional Development Council in 1959 (resolution No. 1110/1959, registration number 328). Clear-cutting was prohibited in the area. However, sanitary logging was permitted, which had a highly adverse effect on the naturalness of the forests, primarily because of the extraction of dead trees. Furthermore, the permission of sanitary treatment resulted in the final harvest of large areas, referring to the windthrows of the early 1960s. The Hungarian Army

and increasing tourism also damaged this ever-diminishing piece of woodland. (Fig. 5).

New economy and further fragmentation of the virgin forest (1970–1980)

The 3rd Five-Year Plan for the years 1966–70 ordained the increase of felling target, and the development of wood products industry, within the frameworks of forest policy. The ecological view of increasing the national forest resource was replaced by short-term profit orientation. The former silvicultural system based on forest associations was replaced by the concept of target stand. Close-to-nature forest management was taken over by primary wood production. Coniferisation and the planting of exotic hybrid poplars and oaks fit in well with this concept.

The 4th Five-Year Plan for the years 1971–75 ordained the industrial utilisation of growing stock as the main goal of forestry. It ordained the fast transformation of forest structure and, in general, rationalisation and the increase of technological efficiency in silviculture (KERESZTESI 1971). It further increased felling target, while making allowance for a decreasing rate of afforestation and tree planting, of which 43 % comprised pulp- (hybrid) poplars. This was the first time, when the dominance of conifers and fast growing tree species in afforestation

policy was declared by law (HALASZ 1994). At the same time, the aim at developing the welfare role of forests was declared by law for the first time, too.

By the 1960s, the internal structure of the country's forests had completely changed. According to the forest inventory data of 1970, 81 % of the state forests in the Parad region were suitable for yield production, 13 % were protection forests. Of the stands producing yield 15 % comprised beech (RAKONCZAY 1973). The age distribution of the beech stands shows that the age classes 1–10 years and over 100 years were highly underrepresented. This phenomenon indicates on the one hand that the amount of old, exploitable stands sharply decreased in the past few years. On the other hand, the dramatic decrease of young age class indicates problems in forest cultivation: beech sites were often planted with conifers and natural regeneration was frequently protracted. In this period, heavy-duty machines started working in the Parad forest, allowing large-scale tree harvest: small felling sites were replaced by 10–70-hectare ones. Old forests were often harvested from areas as large as a hillside, and were regenerated with a sea of conifer saplings. Consequently, game stock, that had reproduced slowly, started to grow exponentially. Game damage increased both in forestry and in agriculture, threatening the regeneration of forests. This also led to the degeneration of game stock quality. Shooting plans aimed at solving this problem could not be realised (HALASZ 1994).

In the 1970s, some foresters together with ecologists agreed to extend the idea of forest protection, besides trees and tree stands, to plants and plant associations as well. The Mátra Landscape Protection Area came into being and was later officially protected between 1974 and 1985.

In 1967, several springs were opened and set for using. The water was drained from the Kékes north side, to supply the water reservoir and different objects of the Kékes with water. This intensive interference hindered the water supply of large forest areas. Between 1976 and 1980, all the forest compartments on the ridge, adjacent to the southern part of the Kékes–Észak forest reserve core area were harvested almost at the same time (Fig. 5–6). The adverse effects of this can well be traced in the dataset of the sample area set up to study tree stand structure in the reserve.

In 1978, the so-called tank-road was built in the northern part of the forest reserve core area. This disconnected the Kőrismocsár swamp, which had earlier been closely connected to the reserve, from the old stand, leaving it unprotected. The road also created an east-westerly wind channel on the border of the wetland and the core area.

Strengthening nature conservation (1981–1990)

In 1981, a noteworthy session entitled ‘Natural forests, artificial stands’ was held by the Ecology Section of the Hungarian

Biological Society, and the Environmental Committee of the Parliament, together. The need for selecting forest reserves has become a recurring idea among some foresters, ecologists, biologists in general, and conservationists. It was urged by non-governmental organisations in the 1980s (AGÓCS 1984, CZÁJLIK 1988), and later the need for forest reserves was supported officially, too. However, the contiguous semi-natural woodlands that were widespread in the 1960, have disappeared from Hungary by this time (Fig. 5–6). The designation of the Hungarian Forest Reserves Network was prepared in this situation (TEMESI 1993).

In 1988, the ‘Vásárhelyi István’ Nature Conservation Group was charged by the Nature Conservation Chief Department of the Ministry of Environment Protection to start preliminary researches for the Csörgő-völgyi forest dynamic project. Consequently, forest dynamic studies started, and the Group together with the forest management planning service put the area of the Csörgő-völgyi forest reserve under management planning (CZÁJLIK 1990a). In 1990, the ‘Vásárhelyi István’ Nature Conservation Group initiated the establishment of the Kékes–Észak forest reserve, and, together with the forest management planning service, they entered the reserve in the management plan of the forest (CZÁJLIK 1990b). The Group also urged the Environmental Committee of the Parliament to declare a moratorium on final harvest in strictly protected forests to enhance the creation of the forest reserves network.

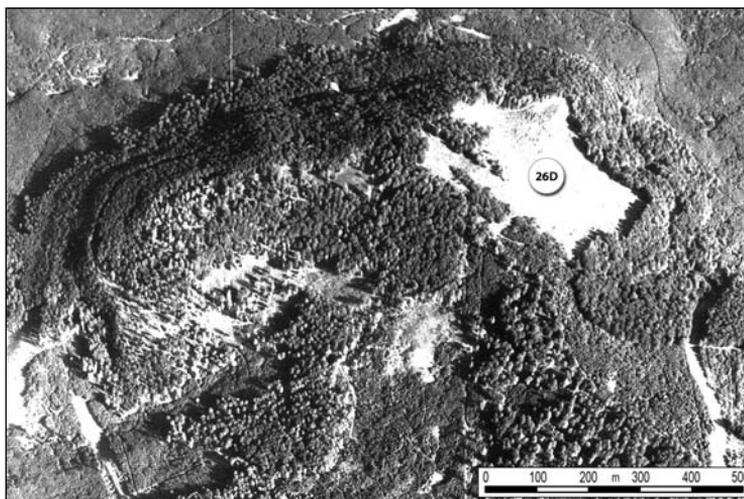


Figure 5 Aerial photo taken in 1965 of the Kékes North forest reserve. Sizeable virgin forest fragments existed on Kékes peak.

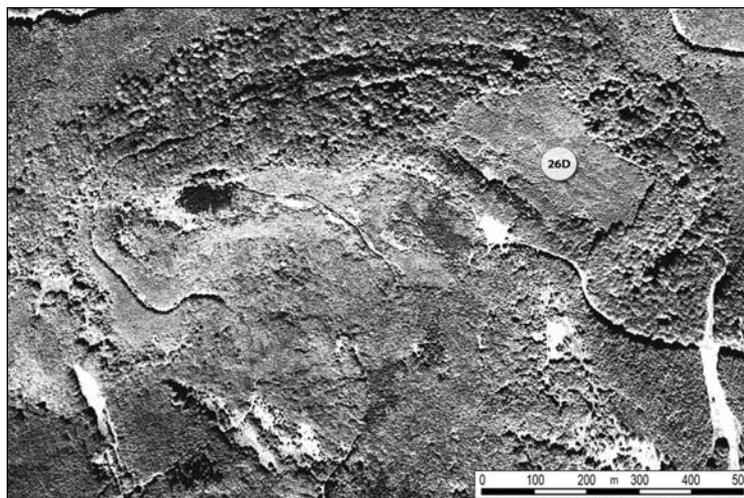


Figure 6 Aerial photo taken in 2000 of the Kékes North forest reserve and the surrounding area. The only virgin forest fragment left is situated on the northern slopes. The virgin forest fragments of Kékes peak in figure 15 are seen here as juvenile stands.

***Hungarian Forest Reserves
Committee – Hungarian Forest
Reserves Network
(1991–2000)***

From 1991, the task of designating and sustaining the Hungarian Forest Reserves Network has been given by a government regulation to portfolios of the Ministry of Agriculture and the Ministry of Environment and Nature Protection. In 1992, the Hungarian Forest Reserves Committee (HFRC) was founded numbering 20 persons, with Csaba Mátyás as chairman. The task of HFRC was to establish Regional Forest Reserves Working Groups, to carry out efficient fieldwork, and to set up an Operative Working Group to prepare the decisions of the Committee. The two working groups together proposed a list of future forest reserves (MÁTYÁS 1993). The proposal made it possible to add new reserves to the Forest Reserves Network in the future. In 1993, the HFRC accepted the proposal in condition that the work started would continue. However, the HFRC was never again convened. The Operative Working Group kept functioning for a while: they finalized the survey data by the end of the year.

As a result of the above preparations, the legal institution of forest reserve was enacted. Finally, government regulation No. 3/2000 issued in 2000 by the Ministry of Environment Protection provided that the following forest reserves situated within the venue of the Bükk National

Park be designated a reserve: Hór-völgy, Kecskés-gallya, Vár-hegy, Óserdő, Leány-völgy, Paphárs–Kecskevár, Csókás-völgy, Csörgő-völgy, Kékes (Fig. 6), Nagysertés-hegy and Pataj.

EVALUATION

The Mátra Mountains had comprised huge, contiguous, almost intact primeval forests up to the 13th century. Parád village was founded in the Tarna valley probably in the 15th century. The number of inhabiting serfs was low (10–15 families at most) until the mid-1700s, consequently their influence on the forests surrounding Parád was probably little and local. The area of the present forest reserve was likely subject only to manorial hunting to this time; the still enormous virgin forests were influenced by only little regular human use from the valley. The increasing utilisation of the Parád forests and the development of the village started after 1740, but neither the village itself, its livestock, nor the flourishing of the village Parádfürdő in the early 1800s burdened the inner forest areas of the mountains and their wildlife heavily. The present forest reserve was part of a still large piece of virgin forest. The development of Parád and its vicinity focused on health care and recreation under the ownership of the Károlyi family (1840–1919), nonetheless, forest management was exemplary. By this time, the once contiguous forest began to shrink

and fragment at a fast pace. This was the period when top predators such as the wolf, the bear, the lynx, which need extensive habitat, and the griffon vulture, which used to nest on undisturbed rocks, became extinct. The forest reserve, together with a large piece of virgin forest fragment managed as a protection forest, was fenced and guarded by Gyula Károlyi, as part of a 2320-hectare Wildlife Park. Red deer was introduced in the Wildlife Park, whose protection forests were free

from any human use, except for hunting. Following the fall of proletariats dictatorship after the First World War, the area was nationalised, forests were managed professionally by various organisations. The majority of social and economical impacts avoided the forest stands of the present Kékes-Észak forest reserve core area, let alone the building of the northerly downhill course for winter sports, and the east-westerly dirt road in the 1930s, which were out of use most of the year.

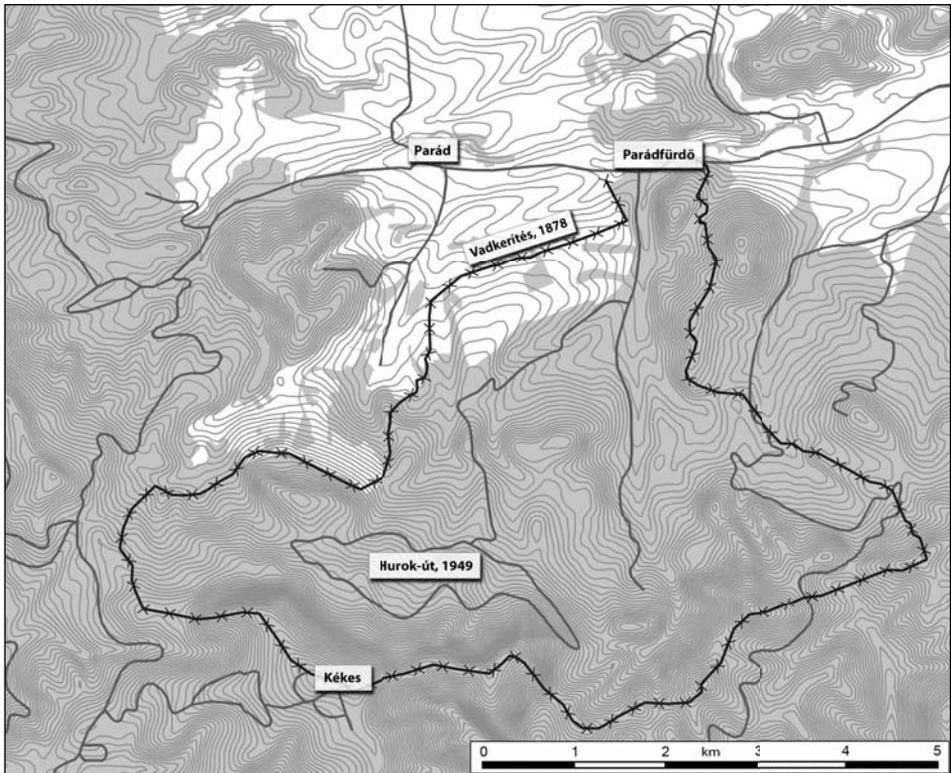


Figure 7 Contour map of the Wildlife Park showing the fence built in 1878 (which stood until the 1940s), and the access road built in 1949. Virgin forest fragments survived only on the extremely steep northern slopes of Kékes peak.

After the Second World War, in the period of country reconstruction, demand for wood increased greatly. An access road was built in the northern slope of the Kékes in 1949, which allowed access and harvest of the yet virgin parts of the Wildlife Park; at the same time, silviculture was mechanized to a great extent. However, 438 hectares of more or less intact virgin forest fragment were still protected as a protection forest. In the 1950s, large forest areas were harvested on the northern and western border of the core area. Then in the late 1970s, after abolishing the protection status, the primeval stands to the south of the present core area were also felled. As a result, most of the more than 2000 ha intact, virgin forests of the Károlyi Wildlife Park fell victim to the reconstruction and overexploitation. The late primeval woodland of Parád shrunk to its fraction, was disturbed greatly from its edges, but the steep, rocky, northern slopes of the Kékes still preserved some natural stands, which were left without any protection by that time (Fig. 7).

The turning point was the revival of nature conservation efforts in the 1980s, leading to the preparation, establishment and finally the declaration of forest reserves.

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