

Society of Irish Foresters 58th Annual Study Tour Hungary 2001

Forty-eight Society members assembled at Dublin Airport on Saturday the 1 September 2001 to begin the 58th study tour and the Society's first visit to Hungary. A notable absentee was the late Charlie Farmer, formerly of the Northern Ireland Forest Service and a regular study tour participant over the years. A minute's silence was observed in his memory.

The group was met at Budapest Airport by Professor Janos Gál, who was our tour leader for the week. Janos gave us a snapshot of Hungarian forestry during our bus ride from the airport to the hotel. Hungary has a total land area of 9.3 million ha, which is about 10% larger than the land area of the island of Ireland. Its population of 10.5 million is about twice Ireland's. Forests cover 1.7 million ha, about 19% of the land area. The state owns 61% of the forest area, while 25% is in private hands. Ownership of the remaining 14% has yet to be decided. The species mix is 85% deciduous/15% coniferous. About 57% of the forest comprises native species – mainly beech, sessile and Turkey oak (*Quercus cerris*) and hornbeam – while the main exotic species are black locust (*Robinia pseudoacacia*), pines and poplar.

After uncertain beginnings following the change to a market economy in 1990, Hungary now has an annual growth rate of 4% in gross domestic product – well above the EU average – an inflation rate of 6% (down from 31% in the mid 1990s) and is well on its way to EU membership by 2004.

Janos was the perfect host and guide for the week; he worked tirelessly in looking after the needs of the group. The Society is deeply indebted to him.

John Mc Loughlin, Convenor

Saturday, 1 September

After lunch the group departed on a guided tour of the city taking in many of the sights that make Budapest such a beautiful city. We started in Pest, on the eastern bank of the Danube, and visited the state Opera House, the parliament building and Heroes' Square before crossing over the Chain Bridge to Buda. Later we travelled up to the limestone plateau of Castle Hill, 170 m above the Danube, in a funicular railway and explored the Castle district and Margaret Island.

Donal Magner

Sunday, 2 September

We set off to the north-east, to the city of Eger, in the heart of the Northern Uplands. On the way we travelled through flat countryside running parallel to the Matra Hills before reaching Eger, which is flanked by the Matra and Bükk Hills. Fields of ripened maize and sunflowers gave way to vineyards as we approached the Matra foothills.

Smoke from lignite-fired power stations was an intrusion in this generally unspoiled landscape; apart from the extraction of low grade coal there is little mining in Hungary. This marks the country apart from other former Eastern Bloc countries. As a result Hungary is fortunate in not having air pollution (apart from a few belching Trabants!) of the scale witnessed on previous Society study tours in parts of Poland in 1995 and in the Krusne Hory region of the Czech Republic in 1997.

We visited Eger Castle which overlooks the city. Eger is a favoured destination for Hungarians because it was here that 2,000 of their forebears defended the castle against 100,000 Turks during the famous siege of 1552. Our guide told us how the women of Eger played a crucial role in its victory, pouring boiling water, oil, pitch, and even porkolt (soup) down on the attackers. However, the Turks recaptured Eger 40 years later, and they held the city until finally driven out at the end of the 17th century. Apart from some descendants of the Turkish community – like our tour guide – there is little of the Turkish occupation evident today, as their domestic and religious architecture has been destroyed. After the castle tour, the group visited Eger Cathedral, a neoclassical edifice and were fortunate to hear the massive baroque organ playing at evening Mass.

Later in the evening, we had a presentation from Laszlo Jung, General Director, Eger Forestry Company (Egererdő Rt.) and Urban Pal, Leader of the Department of Production. Egererdő Rt. is a state company that manages 70,000 ha of forest in three regions in the northern uplands. In addition the company owns and operates the Matra parquet factory, a nursery with 22 million seedlings and the Matra Railway with its three narrow-gauge tracks. The annual production potential of Egererdő forests is 328,000 m³ (underbark), with an annual harvest of 220,000 m³. Beech (30%), sessile (25%) and Turkey (25%) oak (25%) are the main species harvested with the balance comprised of range of species. Laszlo congratulated Ireland on its World Cup success and wished the group well in their visit to the Bukk Hills, which take their name from the beech forests which predominate in that region. After a question and answer session, the President of the Society, Trevor Wilson thanked both foresters for their welcome and presentation. He presented them both with copies of *Fr. Browne's Woodland Images* before they joined the group for a hearty evening meal. We overnighted at Taltos.

Donal Magner

Monday, 3 September

On Monday morning we arrived at the Eger Forest Company and were greeted by District Manager Karoly Nemeth and Forest Manager Jozsef Abtal. We boarded the Matra forest railway, now used for tourists but which had once been used for wood haulage, and were brought high into the Bukk Hills.

The Eger Forest Company (Egererdő Rt.) manages 74,700 ha of forest in three regions, which comprise the largest contiguous area of forest in Hungary, covering the mountains and hill land of northern Hungary. The forests cover the whole of the Matra Hills, the western Bukk Hills and the Heves Hills. They have been managed for over 400 years and during the industrial revolution they provided large volumes of coppice for the charcoal industry.

The forest is comprised of natural and naturalised tree species, predominantly broad-leaves:

<i>Species</i>	<i>Forest cover %</i>
<i>Sessile oak</i>	35
<i>Beech</i>	30
<i>Turkey oak</i>	18
<i>Hornbeam</i>	7
<i>Conifers</i>	7
<i>Others</i>	3

After the introduction we continued uphill to a mature oak stand which was at the initial regeneration stage, with some few good quality stems remaining. The hill slopes had been terraced by hand to prevent acorns from rolling downhill. We made our way to the open-air museum which showed traditional machinery and equipment that was used to remove wood from the forest; these varied from human sledges to oxen carts. We also saw the reconstruction of forest workers' homes which were made of slabs of wood or poles where they would spend a number of weeks before returning to their home down the valley. We also stopped off at the forest museum, a converted District Forester's house, which was in stark contrast to the slab huts in the wood. It was pointed out that the District Forester was a powerful man in former times, with 500 workers under his direct control.

The Hungarian state forest is comprised of 22 regions each 75,000 ha in extent (19 general forest management and three military). Each region is divided into forest districts of about 8,000 ha. The district manager has two professional foresters working in support - these usually specialise on either harvesting or establishment and general management. Each forest district is sub-divided into ten forest units (800 ha), each with its own forest technician, who supervises all field operations in the unit. All work is carried out on contract (mostly by forest workers who were formerly employed by state forest organisation).

A ten-year management plan is agreed with the Forest Service. This determines the areas to be cut, the annual harvest volume and the composition of reforestation programmes. Some of the areas in the region are part of Hungary's extensive National Parks where consultation must also take place with the Environment Department (equivalent to Dúchas) when compiling the plan.

The annual allowable cut for the region is 330,000 m³, of which 220,000m³ was harvested in 2000. About 60% of the harvest is suitable for industrial use (veneer, sawlog and pulpwood) with the other 40% being used as firewood. The product assortments sold in the region in 1998 were as follows:

<i>Wood product</i>	<i>Removals by volume %</i>
<i>Veneer logs</i>	1.5
<i>Sawlogs</i>	23.5
<i>Other sawmilling products</i>	5.4
<i>Pit props</i>	0.6
<i>Pulpwood logs</i>	8.9
<i>Panelboard logs</i>	13.1
<i>Other industrial uses</i>	4.8
<i>Total industrial wood</i>	57.8
<i>Firewood</i>	42.2

Hunting of red, roe and fallow deer, wild boar and moufflon is managed on 55,000 ha (70%) of the forest. It yields little revenue however. In the Bukk forest district, revenue from hunting represented less than 5% of income. Three thousand ha lots were leased annually at about €19,000 upon which the allowable cull was 100 animals. Prices for red deer stags varied between €190 to €1,900 (for good quality stags) and €63 for females. Prices for roe deer stags varied between €190 to €1,300 and €63 for females. Germans and Austrians as well as Hungarians are the main users of the hunting facilities.

In the afternoon Turkey oak silviculture was dealt with in greater depth, stops included mature Turkey oak where the majority of the harvest goes to firewood. Reforestation of such sites favours a shift to sessile oak which has a higher end-use value. We overnighted at Sarospatak

Richard Lowe

Tuesday, 4 September

The Hedaoya area, located in northern Hungary, in the forested hill country of Bukk was our destination for the day. We were welcomed to the Zemplén district, by the district manager, Szaniselo Gabor, who manages a forest area of about 10,000 ha of state land, for the Egererdő company. The company harvests about 300,000 m³ annually. Some of the harvest is processed in the company's mills; part is sold for logging. Felling volumes conform to a forest plan, with felling licences being granted by the state forest service.

The first stop was at a 6.4 ha stand of mature (111 year-old) Douglas fir, which was being conserved for seed production. The largest trees were up to 10 m³. Originally Norway spruce grew alongside the Douglas, but it had died out due to the dry climate and the high incidence of *Fomes*.

This was followed by a very impressive stand of 90-year-old beech, of exceptional quality. (Beech is native to Hungary, comprising 6.3% of the forest area.) The stand will be due for clearfelling after a further ten years, and was being opened-up to encourage natural regeneration - when a certain proportion of beech seedlings are present, mature trees are felled to let in light. Beech is slow growing and shade tolerant so the process of opening-up a stand to encourage natural regeneration can take up to six years, sometimes longer, to minimise the risk of frost damage to seedlings. After regenerating naturally beech seedlings can grow very densely, necessitating a reduction in the numbers of stems, also aggressive species such as hornbeam need to be controlled. It is necessary at an early stage to establish the proper ratio between selected species and to control invasive species. Beech seedlings are tended for up to 10 years, gradually reducing the number of stems. The stocking rate for beech here is 6000 to 8000/ha at 10 years, falling to 2500/ha stems at 40 years.

The next phase can last for up to 40 years, with some pruning and a further reduction in density. It can take up to 60 years before any profit arises from thinning. At this stage management is aimed at encouraging diameter increment as opposed to height growth. Felling of mature beech trees takes place in winter, when the ground is snow-covered, to facilitate log sliding during extraction. It is restricted to areas less than 5 ha. Unfelled areas must be left alongside regenerated/clearfelled areas.

At the next stop a 15-year-old stand of beech, in mixture with hornbeam and oak, was seen. It has been the experience that mixtures increase the wind-stability of stands. In this particular area, mixtures comprised of beech and European larch have been found to be very wind resistant.

In some areas fencing is used to exclude deer; a chemical is also applied to stems to discourage them.

After an interesting day in the field we made for the city of for our overnight stay.

Pat Berkery

Wednesday, 5 September

Following a pleasant overnight stay at Debrecen we departed from our hotel to visit the Great Forest of Debrecen. On route we were joined by Mr Tibor Olah, a representative of the Nyirerdo Forestry Corporation, our hosts for the morning.

Mr Olah gave an excellent presentation on the city's past and present state. Debrecen is situated in the Eastern Great Plains of Hungary and has been a place of importance since the Middle Ages. It has a population of over two hundred and fifty thousand inhabitants and is the second largest city in Hungary. Its inhabitants have survived multiple invasions by Mongols and Tatars, and the later Turkish and Hapsburg occupations. The Reformation brought Calvin Protestation to Debrecen, and during the Thirty Years War (1618-1648) Debrecen proved to be a fortress of Protestantism and has since been referred to as the "Hungarian Geneva" and the "Calvinist Rome".

Today, Debrecen is better known as a place of leisure and tourism. Its main attraction is the Great Forest, where a large recreational centre has been created with botanical and zoological gardens, health spas, camping areas and a large sports arena. It hosted the 2001 World Youths' Athletics Championships.

After a short bus journey we arrived at Nyirerdo Corporation's Forest Cultural Centre in the village of Bank. We were met by Mr Pal Csoke (District Director), Lajos Erdos (Recreational Forester) Miklos Szemeredy (State Forest Service) and Ms Miklosne Elek (Forester). The District Director, Mr Pal Csoke outlined the structure of the Debrecen Forestry District. The forest is situated at the southern point of the Vyirseg on marshy ground. The typical soils found here are wind-blown humic sands with various layers of humus.

The total forest area is 9,400 ha, of which 8,700 ha are under forest. Of this 8,500 ha are located around the city of Debrecen, the remainder is scattered throughout other nearby settlements. One third of the forest is oak, other common species include acacia, poplar and pine. The annual planting target is 140 ha. Wood production runs at 48,000m³ annually, mostly (65%) black locust and comprises a number of assortments: sawlog (acacia and oak), mining timbers and pit props, vine poles for the wine industry, aspen and pine wood panels and pulpwood.

The company operates a forest culture centre, an exhibition hall and arboretum, where foresters teach the public how to conserve and value nature. The 9,400 ha district is staffed by sixteen forest workers and twenty-five technical and administrative staff (including fifteen foresters and three forest engineers). Timber revenue covers expenses whereas silvicultural operations receive state support.

Mr Lajos Erdos gave us an insight into the recreational aspects of the district forest. Work began in 1975 when the museum was founded. Its primary function is to display the flora and fauna found in the district and to house and display a pictorial record of how the inhabitants of the forest lived in former times. It also has rooms for guests and scientists who wish to experience and study the surrounding forest habitat. Recreational activities are segregated in the forest, noisy spots are confined to the northern section of the forest away from the more valuable habitats, scientific studies take place in the middle section of the forest, whereas boating, water sports and horse riding take place in the southern portion.

At this point the tour moved outdoors where our hosts led us to our first stop of the morning, a black locust stand. Black locust is native to south-western US. It first appeared in Europe in the 1600s. Samuel Tessedick, an Evangelical priest is believed to have brought the first specimens to Hungary in 1710. The role of the black locust in Hungarian forestry

is extraordinary. Hungary has more of these trees than the rest of the European continent put together. The area of black locust forest is 318,620 ha, or 19% of the total forest area of Hungary. It was originally planted to stabilize sandy soils and prevent erosion, and has the ability to thrive in the dry sandy soils of the plains.

In the Debrecen forest, black locust grows to 25-30 m and yields a significant amount of wood in a relatively short time (its yield is normally twice the average of other broadleaved species). Young plants, growing from seed, grow as tall as 1 m within the first year. Its rate of growth is rapid until it reaches 20 years of age. It falls off thereafter to become insignificant after 35 years. In Debrecen it is usually clearfelled at 40 years of age, with a final volume of 400 m³/ha (volume to a top diameter of 5 cm). The assortment breakdown is: 30% sawlog, 20% vine poles and props, 50% firewood (much sought after by locals). Near a mature stand we were shown regeneration using root suckering and natural seeding (this accounts for 40% of regeneration with the balance is by artificial regeneration).

Black locust is extraordinarily durable, even without chemical treatment. Experience locally indicates that the wood lasts 20-25 years in soil contact, and 60-100 years out of contact. Sawn goods are used in the furniture and carpentry trades, for chairs, tables, parquet, stairs, banisters and railing supports. It is an ideal tree for bee keeping; the honey produced from the flowers is a golden yellow.

We next visited a beautiful, mature oak (*Q. robur*) forest on the outskirts of Debrecen. This 200 ha of old woodland was declared a nature reserve in 1992; all fellings are prohibited, mainly due to public pressure. This has resulted in invasive species such as black locust increasing to the detriment of oak regeneration – another situation where rigid preservation is counterproductive to conserving the original habitat type.

The next stop included a selection of young oak plantations where discussion took place on establishment methods. Here the first step is to burn lop-and-top on the ground. After cultivation 600 kg/ha of oak seed is sown. In the first year growth of 8-12 cm is common, while competing vegetation is controlled chemically. Crops are usually free growing at 6 years of age with a stocking of 30-40,000/ha. Shaping and selection of final crop trees begins at 10 years of age.

On leaving the Great Forest of Debrecen, we journeyed west on Route 33. After about 25 miles we entered Hungary's first national park, the Hortobagy National Park, which includes wetlands, marshes and grasslands. We were met at the famous nine span bridge by the National Parks Cultural Affairs manager Mr Gensi Zoltan. The tour was treated to demonstrations of ox driving and horse riding by the parks herdsman and shepherds.

Hortobagy is a salifereous, grassy desert of 115 km²; its landscape was primarily shaped by the waters and floods of the river Tisza. The park consists of 80,000 ha of open country in the great Hungarian plains, its flatlands have an average altitude of 5-10 m above sea level.

The main sources of income in the area are from livestock breeding and tourism. It is home to the nonius – a Hungarian horse breed, Hungarian grey cattle, black and white racka sheep, and buffalo. It is also home to the great bustard, one of the world's largest birds, which stands a metre high and weighs in at 20 kg (unfortunately not seen during our visit). However, we were fortunate to see many marsh harriers hunting over the great reed beds. After a lunch of local goulash soup (Gulyasleves) we boarded our coach for a four-hour journey to the overnight stop at the town of Bujac, ending a most enjoyable day.

Gerry Murphy (Limerick)

Thursday, 6 September

On a very wet morning the tour bus departed in the direction of the Kiskunsag National Park and drove through the great Puszta plain.

Our first stop was the Puszta Museum where the District Forester gave an overview of his district and the museum. The museum contains information and displays of the life and cultural habits of the people who lived and worked in this area. The Puszta plain was traditionally grazed and managed by shepherds. The Puszta is the largest lowland plain in Central Europe and traditionally was used for extensive animal grazing. The Forest District consists of 11,200 ha and is situated on very sandy soils. The origin of these soils is the result of the sea receding and the river Danube changing direction over 4 million years ago, resulting in large deposits of sand which can reach 1,000 m in depth. The sand is alkaline in nature. Planted coniferous species account for 65% of the total area, principally Scots and black pine. In 1945, a large afforestation programme established over 10,000 ha on the plains. Skills in the afforestation of sandy soils were developed. The district's annual cut is about 33,000 m³, on rotation lengths that vary between 40 and 50 years. Wood quality is generally poor with fuelwood and pulpwood accounting the main products. Hunting accounts for 2 % of the income.

After leaving the museum we travelled to our next stop, an area where a grey poplar stand had been windthrown in 1996. The forester explained that following the windthrow the site was cleared to regenerate from cut stumps. Results were poor following a dry summer after harvesting. As a result all of the stumps were removed and windrowed. Poplar cuttings were planted 2.5 x 0.9 m apart. In the first year competing vegetation between the rows is mechanically cut back up to three times. The plantation is usually fully established by the end of the second year. Natural regeneration of species such as black locust is acceptable between the rows.

The bus departed south-westwards towards Baja where our hosts laid on another great lunch, which consisted of local venison and other Hungarian delicacies. The local Forest District manager gave an overview of the Gemenc Forest and Game Company. Almost two-thirds (17,000 ha) lies in the flood plain of the river Danube, making it the largest flood plain forest in Europe. Humic, alluvial soils and humic sands predominate. The climate of the region is continental with a sub-Mediterranean microclimate in parts. Species planted include black locust, oak and white poplar. The company also manages large hunting fields, which are internationally renowned. A number of record sized red deer have been shot, with one red deer measuring 271 C.I.C.¹ points in 1986. A large population of wild boar was also present. A single shooting party can take up to 30–50 wild boar in a day. There are a number of hunting lodges throughout the area which are rented by hunting parties. A large number of hunters come from Austria, Germany and Italy.

We were next treated to a railway trip that took us through the Gemenc forest where excellent stands of oak and black walnut were seen. The importance of the region's hunting was confirmed as numerous wild boar and some red deer were seen. The railway is 30 km long; roundwood from the forest is transported by rail to the workshop at Porboly where it is either processed or further transhipped along the Danube. Passenger use of the railway is significant and can exceed 40,000 people yearly. The line operates a scheduled service from 1 May to the 31 October between the stations of Porboly and Malomteto. The station at Malomteto is adjacent to nature trails and a bird observatory that allows

1 International Council for Game and Wildlife Management.

the public to observe the rich and varied flora and fauna of the forest and lakes within the flood plain.

Before dinner at the forestry station at Lake Balaton, a representative of the Forest Service gave the group a comprehensive overview of its organisation and structure and on Hungarian forestry in general. The Forest Service has a staff of about 500 who are responsible for forest policy and the compilation and monitoring of forest people. They carry out an inventory of one tenth of the growing stock each year, in order to calculate the allowable annual cut and the volume of the national growing stock. Recreation and conservation are also important functions of the forest and this is reflected in the nine National Parks that exist.

We overnighed at the Forest Service Education Centre at Lake Balaton.

Fergus Moore

Friday, 7 September

Lake Balaton lies at the foot of the Balkony Mountains and is situated 175 km south-west of Budapest. It is the largest inland lake in Europe and contributes significantly to the environmental, economic and social value of the Balaton Uplands. The lake area is renowned for its geological, botanical, zoological, landscape and scenic values, its historic relics and association with political figures and events of the past.

Against this background, the day was spent in the Balaton Uplands National Park. The tour leaders for the morning were Drs Peti Miklos and Sonnevad Imbre, both of whom are attached to the Balaton Uplands National Park Directorate at Veszprem.

We were met at the steps of a complex of buildings that make up the Benedictine Monastery by Dr Miklos who has special responsibility for forest management and planning. Dr Imbre has special responsibility for conservation and protection in the Balaton Uplands National Park.

Following a brief introduction, the tour began with a visit to one of the oldest religious sites in Hungary - the Benedictine Monastery at Tihany, whose buildings occupy the most prominent point on the peninsula. The monastery was founded by King Andrew I in 1055 and is dedicated to St Anianus. King Andrew was buried here in the vaults in the year 1060. In the course of time most of the original church and monastic buildings were modified as a result of fire and war.

In the 16th and 17th centuries drawings were discovered which highlighted the fundamental changes in the building's history because of Ottoman attack. It was at this point in the monastery's history that the Benedictine Order left for the first time. When Hungary was liberated from the Turks with the assistance of the Habsburgs, the lands and estates were returned to their former owners by the royal court in exchange for money. However, in the case of Tihany, the Hungarian Benedictines were too poor to pay for the return of their estates and asked their Benedictine brethren in Altenberg, Austria for assistance. So it was that in 1702 the church and lands became the property of the Austrian monks and title was later transferred to the Hungarian Benedictines in 1716.

During the period 1716-1786 three successive abbots concentrated on re-establishing the monastic life and stabilising its estates and finances. Reconstruction on the present church and monastery began in 1720 and was completed in 1754.

In 1786 the Benedictine Order was dissolved by decree issued by the Habsburg Emperor Joseph II, the monks had to leave the abbey for the second time. In 1802 the monks were

allowed to return to the abbey. By 1880 the condition of the monastery buildings was very poor. Restoration and renovation were carried out in 1889–1890.

In 1950, during the Communist regime, the monks again had to leave the monastery. They returned in 1990 but it was only in 1994 that the Order regained ownership from the state. Renovation of the interior began in 1992 with the restoration of altars and the wall paintings. This was followed by overall restoration of the monastery in 1996. Renovations to the exterior are still in progress.

The Balaton Uplands National Park stretches from the northern shore of Lake Balaton to the plains of the Rába river, from the valley of the Marcal river to the Teo plateau, and from the valley of the Murca River to the Kio Balaton basin. It extends over 56,000 ha, containing over 36,000 ha of protected areas, within which there are about 800 ha of original forest.

The Balaton Upland National Park Directorate is administered from the offices of the state Forest Service located at Veszprem, with a staff of 80 who have responsibility for 22 nature conservation areas. In 1952 Tihany was the first protected landscape area created in Hungary. It covers 1,562 ha, of which 195 ha are strictly protected.

The varied landscape of the peninsula is an attraction to visitors throughout the year. The unique geological value of the Tihany peninsula (which is valued on a world scale) is its complete Upper Pannonian (Middle Miocene) sequence which is rich in fossils. Its most famous fossil is the ‘goat hoof’, a petrified *Congeria* shell. Various stages of the erosion of basaltic tuff can be studied on the Kiserdo Peak.

Rare fauna and flora occur as a result of the mild, Mediterranean climate. The arid forests of ash, oak and sumac are especially picturesque especially in autumn. One of the rare birds of the peninsula is the horned sparrow owl – on summer evenings the loud call of the cicada and the balm-cricket living can be heard.

Several rare, protected sub-Mediterranean plants (*Sternbergia colchiciflora* and *Scilla autumnalis*) occur on the grassy steppes of Tihany. Forest developments have been created on these ancient Pannon grasslands, which prior to planting were extensively used for sheep grazing. The Directorate actively encourages sheep grazing within the protected zones in order to help conservationists restore the pastures that had been neglected for so long. As part of this work, the Directorate construct sheep pens in order to encourage farmers into the area.

The Tihany area is especially rich in insects that thrive in the warm climate: over 1,000 species have been identified in the area. A wide variety of butterflies occur, some of which are extremely rare such as ruly tiger, red underwing and looper. An interesting fauna of bees and wasps occupy the steep sand and clay slopes descending towards the lake, such as the turret wasp, *Plopeus destillatorium* and *Podolinus parietinus*.

The historic relics of the peninsula are also the responsibility of the Directorate, such as the Benedictine abbey and grounds, the former Orthodox Church cave dwellings, which were restored in 1993 and the village heritage museum.

In 18th and 19th centuries the population in the Tihany peninsula was much greater, sheep grazing on upland pastures was extensively practised, leading to erosion on these light sandy soils. In the early 1900s, to counteract the effects of erosion, the hillsides above Tihany were planted with pure crops of maritime pine (*Pinus pinaster*), at a stocking density of 13,000 stems/ha. At time of establishment, humus had to be imported onto the site and applied to each individual plant. It was envisaged that the pine would act as a pioneer species, create its own humus, thus stabilising the soil and creating a good medium for the second rotation. The silvicultural treatment consisted of a reduction in stem

numbers at years 10-12, followed by further thinning which was carried out at intervals until 70-80 years of age, when pre-commercial felling was completed. From year 80 onwards it was noticed that the rate of canopy closure in the pine decreased, creating open pockets ideal for natural regeneration to occur. Surprisingly, assisted by prevailing winds and birds, the area regenerated with a mixture of a wide range of broadleaved species including ash (*Fraxinus ornus*), Turkey and downy oak (*Q. pubescens*), sumac (*Rhus typhina*) and elder, forming the upper and middle storeys with *Cotina* and *Cornus* spp forming the ground/lower storey. At year 90, a manual stem reduction, removing whips and wolves was carried out in the broadleaves with the best stems being retained and pruned. Currently, the plantation consists of pine, which forms the upper canopy, the oak and ash forming the middle to lower canopy layers. From a visual perspective, the plantation has a very attractive appearance. However the broadleaves will have a poor commercial value due to the high percentage of poor quality stems and the very high cost of manual improvement treatments. It has now been recognised that the visual value of the plantations, on this prominent elevated landscape, far outweighs the commercial value of the remaining pine crop. As a result, and in response to strong public demand, the Directorate have decided to maintain the pine indefinitely, and that future management of the crop should favour the production of the broadleaves, albeit with no economic return.

Dr Miklos, in his role as Deputy President of the Association of Hungarian Professional Foresters was pleased that the Society choose Hungary for its study tour in 2001, stating that it was a pity that the tour party had so little time – just seven days to view the variety of forest types and landscapes throughout Hungary. He was very pleased that his colleagues had arranged a tour that was both interesting and varied sufficiently in order to provide a good flavour of Hungarian forestry.

The Association of Hungarian Professional Foresters was established in 1987. At that time it had 5,000 members representing both private and professional foresters. Professional foresters have a degree in forest engineering. During the Russian administration period, the Association comprised professional foresters only – as land and estates were confiscated by the State. That situation prevailed until the early 1990s when 700,000 ha of land was repatriated to the former owners. As a result, there is increased contact today with members operating in the private sector. As in the case of Society of Irish Foresters, the Association represents the professional well being of all its members. For administration purposes the membership is divided into regional groups. The Association has one president and three deputy presidents to cater to the technical and private membership.

In conclusion, Dr Miklos stated that the Society and its members were always welcome to visit Hungary, that his Association members would welcome opportunities to demonstrate management and silvicultural achievements, and offered his Association's best wishes to the Society of Irish Foresters both here in Hungary and those at home in Ireland.

The Society's Vice-President, Aeneas Higgins paid tribute to Dr Miklos for his Association's warm welcome and good wishes, to his members' contribution to the success of the Society's tour, and his members' success in preserving the heritage, cultural and landscape values of forestry in Hungary.

The tour party enjoyed a most informative visit to the Tihany peninsula and were most appreciative both to Dr Miklos and Dr Imbre for helping us to understand the natural and cultural values of the Lake Balaton Uplands, for their depth of knowledge and patience in coping with such a large group, and to all of the Directorate staff who gave of their time to ensure the success of our tour of the Balaton Uplands National Park. Following a show of

appreciation and exchange of gifts with the staff, the society bid farewell to the Directorate staff to begin our journey along the M7 motorway eastwards through Budapest, over the river Danube, bound for the airport to begin our return journey to Dublin.

Tour Convenor, John Mc Loughlin and the Society President, Trevor Wilson, paid tribute to Professor Janos Gál, who through his dedication and attention to detail, worked extremely hard throughout the week in order to ensure that the tour operated smoothly. He left us very conversant with the current issues and values in Hungarian forestry. We were extremely honoured and fortunate that Janos accepted the task of organising and leading the tour group, and bade him farewell in our customary manner. Finally and by no means least, special tribute was paid to Thomas, our driver, for the courteous, helpful and agreeable manner in which we reached our daily destinations.

Eamon Larkin

Participants

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