

# THE WHITE-TAILED EAGLE [*HALIAEETUS ALBICILLA* (L.)] IN HORTOBÁGY

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The area in which the white-tailed eagle has its range comprises the pale-arctic lowlands from the isotherm line of 5,6 °C of month July to the Mediterranean region. Here it confines itself to areas of large water. It likes sea-coasts, banks of large rivers, lakes and reed-beds being equally distributed through forest and steppe-land (VOOUS, 1960).

While once its occurrence was common all over Europe, now it breeds in but a few places, first of all in the forests of the larger inundation areas of the river Danube. It is known that it was in 1908 that the white-tailed eagle bred in Great Britain (Shetland Isles) for the last time; in Denmark, after some 42 year interval the bird was found nesting in 1954 (Zealand Isle) (SAUNDERS, 1927; VOOUS, 1960). The most favoured area in the Scandinavian peninsula was Finland, where the number of breeding pairs in 1930th was estimated at about 30 pairs which decreased by 5–6 during the following decade due to nest destructions by the local inhabitants and to hunting (MERIKALLIO, 1958). Its progressive extinction has long been hastened by environmental damage increasing continually in degree and diversity culminating in the injurious effects of radioactive pollution spreading far afield after nuclear explosions as well as by the toxic effects of plant-protecting agents (herbicides, insecticides and pesticides) such as DDT, mercuric chlorid, PCB etc. Thus, at present – as I am kindly informed by a verbal message of my Finnish ornithologist colleague, J. VALSTE – its breeding success is reduced to only 1–3 pairs annually. In addition, the birds which have reached sexual maturity (about 25 specimens) remain in Finland throughout the year, and it is only the immature birds which set out on their usual migratory journeys which may last for several years. In all probability there are a few of them which reach this country, because according to the ringing they visit not only the southern parts of the Baltic Sea, but also have been recorded in Norway and Bulgaria.

Today the situation in this country is no better, either. In times past the white-tailed eagle used to be a very typical raptor of our lowland steppes dotted, as they are with a great number of wells (wells typical of the “puszta” consisting of a forked upright carrying a long cross-beam-like lever, the so called sweep), and it was not uncommon to find its nest built in large forest-trees near water.

From the second half of the century onwards – under pressure from agriculture which started expanding by leaps and bounds – the white-tailed eagle sought the quieter groves of our rivers which were still undisturbed by man, and the peaceful breeding sites of densely overgrown islets of river

sections with idly flowing currents. At that time it nested abundantly, a fact confirmed by crown-prince RUDOLPH himself who — accompanied by the well known zoologist BREHM and the ornithologist HOMEYER as well as the taxidermist HODEK — shot 14 white-tailed eagles in there course of a two-week hunting excursion to the Lower Danube in 1878. In addition he took home 8 living specimens (with 6 eagle owls)! His shooting-list deserves a bit more attention: among other birds he also killed 8 black vultures, 1 griffon-vulture, 7 imperial eagles, 3 lesser spotted eagles, 2 booted eagles, and 2 ospreys! I am surprised that BREHM and his colleagues did not raise their voices against the *extermination* of so many rare birds (to be sure the greater part of which was not common in those days, either), and, overcome of their sense of loyalty, they were not even shocked by the fact that their partner in hunting — noble but but without conscience — had also shot down breeding birds on the nest . . . (RUDOLF, 1890).

Undoubtedly there were white-tailed eagles in fairly large quantities among the 4219 birds (eagles and vultures confirmed by a statement in 1884) reported shot on the Hungarian territory taken in the narrow sense in the course of the year 1884 (BEDŐ, 1885). Falcons, kites, buzzards and kestrels are not included in this figure, the number of which is separately given as 35 264 birds.

Of course, nowadays too, there are some shooters not able to bridle themselves, who — whith the self-confident belief in their skill and invulnerability — cause irreparable damage to our rapidly diminishing natural rarities by their irresponsible shooting. This is proved by stuffed specimens gathering dust in the homes of foresters or sportsman hunters (here I am bound to remark: “if the cap fits wear it”), and by the decomposing carcasses of some specimens found here and there often dying painfully some days after they had been shot with lead shot.

For all that it can be said that it was never hunting that chiefly threatened the life of the white-tailed eagle; it was not hunting but a much more cruel enemy, mean and irresistible that sealed its fate: civilization.

Its progressive extinction first started with the regulations of water-ways, at the time of drainage of marshes, when the forests in the vicinity of water with their giant trees began to disappear, and the large steppes reaching the horizon shrank closer together due to the he rapidly growing plots of arable land. Consequently the nesting sites and feeding areas of the white-tailed eagle, too, diminished year by year.

The strongest — and it is mostly to be feared that the last blow was dealt the bird by the spread of using chemicals as well as by the chemical contamination of its environment. Its number decreases rapidly; its occurrence now is something of a phenomenon.

Moreover, it is commonly known that persistent toxic residues which are present in the bodies of the contaminated prey — even if only to a small extent — accumulate later in the organs of the predators, and endanger their reproductive power, moreover they may cause the predator's death. Recently a great number of Northern European white-tailed eagles have been killed in this way.

For instance, in Sweden in the fifties warning was given first through the mass death of granivorous then that of the raptors that it would be wise to reduce the use of caustics and sprays containing mercury. Due to similar

incidents becoming more and more repeated, in 1966 the government banned the agricultural use of agents containing alkyl mercury (Műszaki Információ – Környezetvédelem, 1973. 1. 36. p.). On the other hand the significance of this move goes beyond the required limits of bird protection, because the compounds of mercury (methyl mercury) stored in the organism of fish and game – in addition to the raptors – damage the health of man, too.

With reference to this I can mention an incident connected with this country, moreover with Hortobágy. On 23rd 11. 1974 about 200 wild-geese (all of them white-fronted geese with the exception of 2–3 specimens) perished due to picking up corn from the fresh sowings treated with caustics containing mercury. All this happened in arable land lying at the edge of the strictly protected part of the Hortobágy National Park, called Nyírólapos. That this figure did not continue to increase *was due solely to an immediate issue of a protection order for the area concerned, and to other safety measures – and mostly because the 2–3 white-tailed eagles staying in the vicinity were not able to get at the carcasses in which (mainly in the internal organs) a poisonous agent exceeding the lethal dose many times was demonstrated by the official examination of the authorities!*

The white-tailed eagle-stock in this country diminished considerably during the last few decades. Upt to the fifties – as far as we know – there were 9–10 pairs which bred in the country, but with the lapse of time 2–3 pairs was probably a high estimate; and there were several years in the course of which no breeding was reported. However, the presence of the birds which are still straying about in our country can be considered as significant. The mass of the white-tailed eagles arrives here migrating from the north pressed on by cold weather, especially by ice, lack of nourishment respectively. One part of them passes the winter here in small groups consisting of 3–6 birds, while the remainder (for the most part the immatures) are drawn towards regions lying more to south of us.

The greatest number of them can be seen in the most undisturbed areas, because the white-tailed eagle gives an exceedingly wide berth to man. Thus, the area of Hortobágy with its far-reaching and silent steppes has been its typical habitat for many years. From the mass of old data I should like to present but a few examples: During the winter of 1930 there were 4 white-tailed eagles and 1 black vulture which passed the night regularly in the wood of Ohat (TIKOS, 1943). Then here are the following lines written by UDVARDY in 1941: „The white-tailed eagle breeds no more in Hortobágy, although it can be seen throughout the year, and it is an often seen bird from the early fall up to late spring. It makes its living by eating wounded geese from October up to late spring. Its number increases and decreases with the number of geese. During the spring of 1926 LÁSZLÓ SZOMJAS roused 8 specimens round the carcass of a goose, and at the same time he observed 4 other birds, too. For the night they alight in the familiar place of small locust woods, where they can easily be brought down from a hiding place.” LÁSZLÓ NAGY makes mention of 8 specimens in 1953, and of 14 other eagles in 1958 near Geszt, commenting that he has never observed so many on the Fish-ponds of Hortobágy (NAGY, 1961). LELOVICH surpasses this pretty much with his data from 1955. He writes that at this time he saw 36 white-tailed eagles in the northern part of the Fish-ponds at Kondásfenék, 27 on the pond of Ohat II, and (horribile dictu) more than 150 among those alighting in the

wood of Ohat. (LELOVICH, 1961). Practically speaking this quantity seems to be nearly unbelievable considering the time of the observation and the disturbed state of the area as well as the fact that neither before nor afterwards no one saw — even approximately — so many eagles round the area.

Nowadays as far as Hortobágy is concerned, they couch here only during the winter half-year, but always regularly near the vast water surfaces — in the vicinity of the Fish-ponds, and on the more spacious salt deserts (steppes) of the south respectively. They generally arrive during the first week of November, and return to their far away breeding places in the course of the second half of March. The first autumn specimens can often be seen as early as the end of October, however, at that time they are still in small numbers, so that there are hardly 3–4 eagles to be found in the 50 000 ha area of Hortobágy. In November, before the days winter sets in, their number all of a sudden increases to 15–20, moreover sometimes over 30; in all probability the reason of this is that the birds drawing towards south to avoid the cold wave coming from the north accumulate here. This is especially spectacular when the bitterly cold weather arrives at a quick pace. The greater part of the eagles moves farther away, because they would hardly be able to find some food here when there is a thick snow-cover and steady frost sets in, as well as at the time when waters are covered by crust of ice. At the piscicultural places, where holes are cut regularly in the ice-cover, there are some of the birds there sneaking about fish gathering near the ice-holes in order to have some more air, and very often it is only these few birds which move around the spacious surroundings up to the time when they will be replaced soon by newer and newer migrants. They can greatly be helped during this period if some food is given to them.

Feeding of these rare birds in winter has a twofold value if carried out with special care. The “healthy” food — that is the one which is free from pathogens and chemicals — does not cause death or incapacity for multiplication, and in addition if it is put out regularly it would keep the birds close to the area. In Finland, during the winter season, they have been fed with fresh meat of adequate quality by tons for many years. It is due to this measure that the number of perished specimens is becoming fewer and fewer, and the number of breeding pairs — even if slowly — continues to increase (HARIO, 1974).

To replace the food of the white-tailed eagles became very important in this country, too, especially since the last few years. The hunt for water-game ceased since the creation of the Hortobágy National Park (1. 1. 1973), thus, their “table” laid with broken-winged- and wounded victims to be found lying everywhere following the shooting of wild-geese — and ducks also belongs to the past now. Recently they have to content themselves mainly with fish, then with carcasses found sporadically or with diseased animals. They have to collect even this sort of food from a much larger area in order to have enough.

During the months of January and February of 1972–73 carcasses of several animals such as sheep and pigs and lambs were put out as food on the “puszta” of Zám at the well of Pozsgán. There were usually 3–4 white-tailed eagles feeding ravenously of the carcasses. They alighted on them, and waited so long as the most impatient magpies first and then the cautious hooded-crows, too, started pecking at the carcasses. According to the obser-

vations of my fellow-Conservation Officer, Mr. LÁSZLÓ SZABÓ, they would settle down at their resting-places conforming always to "order of rank". The older bird perched on the larger rubbing-post (a kind of wooden post dug in earth to which cattle go in order to rub their sides), a younger eagle on the thinner one, and another immature specimen of small size (probably a male) on the forked upright of the well, and finally the fourth, an adult bird, on the indented end of the cross-beam-like lever of well. They did not like and accordingly avoided to perch on the thinner end of the lever of well, thus there were rather the hooded-crows and magpies which settled down properly on it (the former on the uppermost part of it and the latter lower down).

However, I personally did see the eagles perch there on occasions, though they did not like to alight on the sort of well which started rocking under their (sometimes very considerable) weight.

I never saw similar regularity in the more northern regions of Hortobágy where they spend the resting period of the day more remote from the place of feeding, although it was often the case that there were about 18–20 birds which had gathered there. These sit on the ground farther from one another on all sides or in small groups, sometimes on the plain — or perhaps rising ground, another time on the rail of a bridge. These places — by virtue of their horizontalities — co-ordinate the eagles from the very first, in consequence of which the hierarchy resultant from the height of the occupied seats will be prevented from coming into being. They often linger on some smaller bulges such as landmark hummocks or old dikes. Again they can nearly always be seen perching at the end of levers of well which always stand upright during the winter season, but, on the other hand rarely on the top of the forked upright and on the rubbing-posts.

As it will often be seen from the following lines, the greater part of the eagles passes the night in the lucust-wood of Juhoshát full of old trees the crown of which already dry. Here, too, I have never experienced any system concerning their perch, but on the other hand, no doubt, each bird gets equally at a dead branch which seems to be suitable to perch on. I observed that at the time of gathering they stayed not only on trees but also often (it seems to me that above all during very windy days) on the ground, though for sleeping purposes all of them looked always for the upper twigs. They can't help doing differently owing to the wild-hogs regularly wandering about the surroundings.

Once the ice of the fish-ponds melt, they came to the carcasses only on very rare occasions, and at last they disappeared. It was not long before that this kind of food was used up, because some birds as well as other animals such as hooded-crows and magpies, then rooks and jackdaws joining the former later, and every night foxes as well as straying dogs made frequent raids on the carcasses. Finally the feeding of the eagles had to be stopped for reasons of veterinary hygiene. Having learned from this experience, we shall make our utmost in order to help these birds in the future.

In spite of the fact that this type of eagle is not of everyday occurrence one should not ignore its role it plays in veterinary hygiene! Its activity is of great importance to control the spreading of epizooties. It is the white-tailed eagle that clears away carcasses, thus doing the works of vultures which disappeared in this country long ago, and it is this type of eagle again

which willingly picks up animals not fit for life or those pulled down by diseases. It often captured also the victims of fox-hydrophobia which has many times been mentioned lately, thus, infection was considerably prevented from spreading. Similarly it renders good service to veterinary hygiene by picking up wounded or dead fish from the ponds.

The white-tailed eagle often perishes during its work of removing dead or diseased animals, because it is sometimes not able to get over the disease it caught. In 1930 MR. VÁSÁRHELYI was given a diseased white-tailed eagle unable to fly which stayed in Hortobágy, where at that time poultry-pest devastated the ranks of mallards and wild-geese. Several white-tailed eagles caught the plague from the affected birds mentioned above, and two of the eagles were found dead (KEVE, 1947). We know from KEVE'S report that the wide-spread poultry-pest in 1946 took some toll from the raptor-stock of the neighbourhood (thus, in all probability from that of the white-tailed eagles, too).

Furthermore, poisons and unconsidered use of fire-arms do also much harm to the rapidly decreasing populations of this type of eagle. Previously I have already mentioned the direct and indirect effects of herbicides and pesticides, and I will mention only as a completion that the poisoned baits used in the game-economy to control the "beasts of prey" are also harmful to the bird. It was very likely that kind of control which had led to the destruction of an immature specimen we found in the well of Sóstelek in the puszta of Zám on 7th March 1972. According to the shepherd, who at that time was walking near by, the bird had been in the well for two days, that is as early as the 5th of March. The carcass was taken first to the Ornithological Institute then from here to the bone-collection of the paleontological department of the Museum of Natural Science.

In the early days of March 1974 the carcass of an adult specimen was found close to the Francia-well at the north-east corner of the Fish-ponds. I personally found but the remains of it, discovering only a lead shot of size 10 stuck in one of its tarsuses. I could not think of clearing up the circumstances of how the bird had been killed, because — with the exception of the lead shot — I had no more evidences, that is traces to find out more about its death.

Nowadays the white-tailed eagle does not do any harm either to the hunter or to the owner of the fishponds. It seems to be strange enough that, in spite of the rare occurrence of the bird concerned — according to BER-TÓRI'S book entitled: "Game Economy and Hunting" (Budapest, 1956) — the white-tailed eagle is considered to be as one of the harmful animals of game economy. This statement is the more strange — when it pays a special attention to the harmful nature of this bird — if we consider the fact that indeed, it was very long ago when white-tailed eagle had regularly taken toll from the flocks of water-fowl. At present it is only a memory if we read the following lines written by LAKATOS: "... they stage big campaigns against, wild-geese and wild-ducks blowing up the whole stock of game of the ponds — especially in autumn when birds are gathering together — and they chase and pursue the countless game as if they had been possessed by the devil" (LAKATOS, 1910). In our days it is considered even as an experience if the white-tailed eagle appears occasionally sailing majestically away somewhere over the many thousands of water-fowl, and in the meantime scaring off the

swimming game below; but it hardly occurs that it would fish out of the lot of game even a single one, or would hunt them collectively.

Every winter there are at least 8–10 specimens – recently even more than that – which stay regularly throughout the area of Hortobágy. The greater part of them moves between Ohat and Máta and in the neighbourhood of the Fish-ponds, while the rest of them – scattered in ones and twos – can be found in the area of the woods of Sáros-ér, Kónya and Nyírólapos.

Their presence is shown first by large “whited spots” (large, white spots of droppings) seen at the resting places of the day, then by the scattered feathers and abandoned remainders of food. Earlier I have often found bones of water-fowls at such places, but recently rather parts of larger fish no more fit for consumption, or more rarely greater pieces of sheep-skeletons can be seen here. In one case I found a hare which had accidentally been dropped into water from the edge of a curb of well.

Their main areas of occurrence are the steppes (puszta) such as Kondás-fenék, Vince-fenék, Matyó-fenék, Papegyháza, Juhos-hát, Sárkány-lapos, Máta etc. extending east from the Fish-ponds. Here they keep on sitting all day long on the tops of smaller hummocks or on the rails of bridges of the channels. At such a time the big birds lying at rest show up already from a great distance. In the forenoon they find pleasure in perching on the top of posts which stand in the middle of larger ponds where, by all means, man can not come close to unobserved.

The overwhelming majority of them passes the night in the small locust wood of Juhos-hát the area of which hardly comes to 1 ha; and the number of the eagles which sleeps in the oak-forests of the more and more disturbed nature reserve of Ohat is becoming fewer and fewer. From spring till autumn there is hardly a man to be seen walking in the vicinity of the protected locust-woods of the puszta, consequently the silent quietness and the openness of the surroundings of these woods is very favourable for them. The quantity and the variety of colours of the feathers cast by the eagles staying here from November – often – till April are always telling a tale about the number and age of the guests.

The stand of the thinly planted wood of Papegyháza (in 1973 112 old locust with dried crowns) does not attract the eagles due to a herdsman's summer housing standing at the southern fringe of the wood concerned. That is to say they avoid the house of which you can never tell whether there is a man hiding in it. For this reason I have very seldom seen any white-tailed eagles alight here (altogether on 2 or 3 occasions), and even if they did so they settled down in such a manner that – while spending the whole day in the vicinity – they could see whether there was anybody to move in the neighbourhood of the hut. In spite of all this MR. RADÓ reported to have seen 30 specimens in the wood of Papegyháza during the winter of 1966 (See: STERBETZ, 1971). I take this datum to be strange not only because of the foregoing facts but also because in those times there were hardly any suitable branches on the rapidly dying trees to spend the night for so many eagles.

Though my observations were directed towards the proportion existing between immature and adult birds, too, I still have not found any system either in the former or in the order of their arrival and departure. However, according to records, one thing is certain, namely the number of the adult

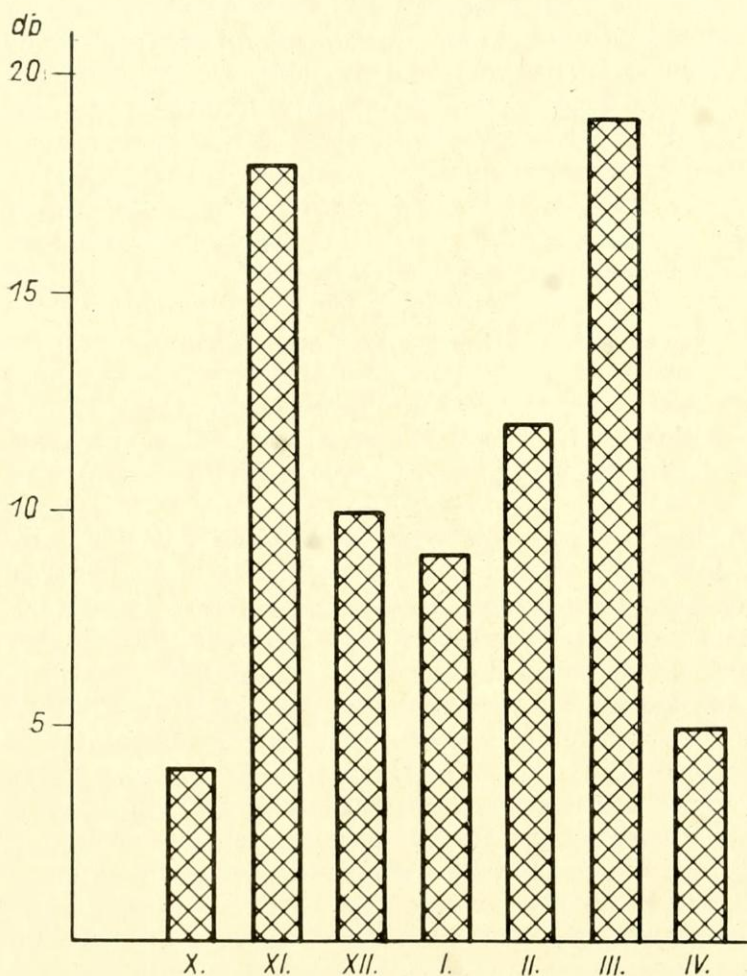
eagles has increased lately. It may be supposed that the reason for this is either the lack of regular multiplication or the reduction of the latter to the minimum. This again – as mentioned previously – can be explained by the shrinking habitats and by the frequent lack of proper food, and besides these first of all by the wide-spread use of chemicals.

Similarly to the temporary increase during fall their number reaches the peak in March again. After the departure of the migrating birds, there are still 2–3 specimens first of all immatures or sterile adult birds left without any mate which hold out up to April, moreover to the end of this month, too. As a matter of course the seasonal moves of the white-tailed eagle will considerably be affected also by weather conditions.

Despite all opposing data, the white-tailed eagle does not breed in the area of Hortobágy from time beyond recall. The data or its breeding here can not be proved, or they are just false. It happened but in the recent past that the bird had been observed to make two attempts to build a nest.

*It was first in January 1972 that a pair of eagle consisting of a plain whitetailed adult and of a speckled-tailed younger eagle built a nest on the top of a 14 m high oak-tree near the north-east corner of the wood of Ohat. We saw them near the nest on 5th March for the last time, and 5 days later, on 10th, they were not to be found any more. At that time there was no disturbing activity going on in the wood.*

*On the second occasion, in the second week of February 1974 the same nest was taken up by a white-tailed specimen and by a much younger eagle the colour of which was different to that of the younger one of the former pair. They sat regularly on the nest up to 22nd February. On 23rd February, in the area of nature reserve, – de-*



31. ábra. A Hortobágyon telelő réti sasok átlagmennyiségének alakulása érkezéstől távozásig  
 Figure 31. The changing of the average quantity of the White Tailed Eagle spending the winter on the district of Hortobágy from arrival till leaving

spite of the repeated and energetic written and verbal protests of the Directorate of the Hortobágy National Park – the State Farm of Hortobágy organized a pheasant shooting *close to the nest which the white-tailed eagle was sitting on!* Due to the extraordinarily disturbing action (the beaters' great noise, the enormous stir, and the steady firing) the eagle-pair abandoned the nest, the area respectively. Between 8th and 11th March they came back once again, but the interrupted incubation ceased to continue.

We waited for their appearance in 1975 in vain, because the wood concerned was disturbed on a much greater extent than ever before (due to the huntings and activities having a connection with them).

Further on, in order to complete as well as to continue the available data of bibliography I am going to disclose my material dealing with the occurrences of the white-tailed eagle. As far as I am concerned, I think that the data reporting on the few occurrences of the preceding years show the quantitative proportions to be much smaller than that of the present day only on account of the very scanty observations. I wish to express my warm thanks to my colleagues Mr. LÁSZLÓ SZABÓ, Nature Conservation Officer, MR. CSABA ARADI, university assistant, and MR. ÁRPÁD SZALONTAY, Nature Conservation Guard, for the conveyance of their observations to complete my own notes. It was their contribution the help of which I was able to compile the following list with a pretty well approach for the claim to completeness.

#### 1957 – 58

My first data of observation originate from the two Octobers of 1957 – 58 revealing 1 – 1 specimens seen on the Fish-ponds.

#### 1959

ARADI reports to have seen 18 birds, in the majority adults, spending the night in the wood of Ohat during his trip to Ohat in December 1959.

#### 1960

I noticed an adult eagle on the Fish-ponds in November 1960.

#### 1961 – 62

In 1961 – 62 ARADI reports on 6 – 6 specimens alighting regularly on the trees of the wood Ohat.

#### 1963

On 18th 12. 1963 Aradi observed 1 adult eagle at Nyírőlapos.

#### 1965

On 29th January 1965 it was ARADI again who saw 1 adult bird at Nyírőlapos.

#### 1967

On 11th January 1967 STERBETZ saw 1 eagle at Borsós (STERBETZ, 1971).

1968

It is STERBETZ again who reports on the occurrences of 2 specimens at Kunfényes on 29th October 1968; of 1 bird at Borsós on 22nd November; and the same day of 2 others at Beke-fenek (STERBETZ, 1971).

1970

During the months of November and December 1970 there was a single adult eagle which stayed permanently at Nyírólapos. On 12th November SZABÓ saw 1 in the wood of Juhos-hát. In the course of winter 8 eagles passed the night in Ohat.

1971

On 21st March 1971 I saw 5 immature eagles, on 22nd November 6 immatures in the same place; however, on 11th December I could observe but 2 adults – the latter around the ice-holes of the Fish-ponds. In the meantime, on 28th November SZABÓ noted 2 specimens at Kövesháza. This winter there were sometimes about 14–16 eagles which crowded together to spend the night in Ohat.

1972

SZALONTAY made the following observations about the number of eagles he had seen: 5, in the puszta of Zám southwards from the fish-ponds of Csécs on 5th January; 3, on the carcasses put out the day before in Zám on 8th January; the same day 2, near Sáros-ér; 3, in Pozsgán at Zám on 13th January; 2, in the same place on 16th; again 2 on 18th; already 3 in the same place and the same day, and 1 at Köves-halom; 4 at Pozsgán on 22nd January. During these last two days I saw 2 immature birds on the Fish-ponds. The following data originate also from SZALONTAY's observations: 3 in Zám at the well of Sóstelek on 27th January; 3 at Pozsgán on 31st January. On 5th February the birds seen at Pozsgán were still there; 3 adults were seen at Sóstelek on 13th February. On 15th February SZABÓ came across 1 adult specimen near Sáros-ér, while on February 16th SZALONTAY saw 1 adult bird at Sóstelek; the same day he was again who noticed 3 adults at Sáros-ér, on 25th 1 bird on the dike of the fish-pond of Csécs at Zám; at the same time SZABÓ noticed 1 adult eagle at Sóstelek. On 26th the same month ARADI, too, saw 1 adult bird at Nyíró. During February there were about 10–12 specimens which passed the night regularly in Ohat. It was then when the pair mentioned previously finished building its nest, and we still saw the 2 adults on 5th March. As early as 10th March the nest was empty, incubation did not taken place owing to lack of proper imperturbability and protection. On 7th at Zám SZABÓ reports on 1 adult eagle at Sóstelek, and again he gives notice about 1 immature bird, already dead, which fell into a well of this place. It was again he who saw 1 immature specimen near Sáros-ér on March 12th, on 14th 1 adult bird at Zám, on 21st another on an locust near Sáros-ér, and 4 more eagles at Halas-fenek. Then I too saw 5 immature birds on the Fish-ponds which alighted in Juhos-hát by the afternoon. On March 28th 1 adult specimen appeared at the well of Sóstelek. On November 13th, the first time this winter, I saw 1 immature bird at the Fish-ponds, and by 22nd 2 more immatures came to Ohat, too. On November

24th 2 others arrived in the areas of the ponds. However, the latter were replaced by 4 adults by 18th. In the meantime, on November 28th SZALONTAY reported on 1 adult bird which he had noticed at the well of Sósstelek. At the end of the year there were 6–8 white-tailed eagles which passed the night in Ohat.

1973

On 2nd January 1973 there were still 4 adult birds which stayed at the Fish-ponds, but as early as January 5th I found 2 immatures in their place. On January 3rd – according to SZALONTAY's report – 1 adult stayed at the ponds of Gyökérkút and 2 at Ohat; on January 9th 1 adult at Pozsgán and 1 immature also here; on 10th of the same month just here 1 adult; on January 12th SZABÓ and SZALONTAY reported on 2 adults and 1 immature at Zám. On February 1st I noticed 2 adults and 3 immatures in the wood of Juhos-hát; on January 4th 2 immature eagles at Gyökér-kút; on 5th 2 adults and 2 immatures on the ice of the Fish-ponds. The following day there was not more than 1 immature eagle which alighted in Juhos-hát. On February 9th I counted 5 immatures and 5 adults on the Fish-ponds; and on February 21st in the forenoon I noticed 12 adults accompanied by 2 immatures. The same day in the afternoon I saw altogether 12 eagles sit on the ground or on the long levers of well and on the rubber-posts. Then later in the evening I observed 7 adults and 12 immatures alighting on Juhos-hát – but, according to my estimation there must have been some more eagles which I was not able to see due to my arriving late, and because it was rapidly getting dark. On March 3rd 3 adult birds appeared at the Fish-ponds, other 5 adults at Vince-fenek, and at Juhos-hát 3 adult eagles. On March 5th SZALONTAY saw 2 immatures on the ponds of Gyökérkút, and 2 at Ohat. On March 8th I watched 1 adult bird hunting at Nyirólapos; on 12th March there were 2 adults on the Fish-ponds, 2 adult and 2 immature birds at Vince-fenek, 4 adults and 2 immatures near Papegyháza, and at Juhos-hát 1 aged eagle, all of them spending the whole day at these places. Till nightfall I saw of these eagles 11 alight in their usual locust-wood in order to stay there for the night. On March 16th SZALONTAY saw 2 immature birds, the one at the ponds of Derzsi and the other in one of the locust-trees of Villogó; I myself noticed 2 adults as the last specimens of spring on the Fish-ponds. This year the first autumn eagle, a very old one arrived at Juhos-hát on October 29th; on 31st I have already met 2 adult and 1 immature birds at the Fish-ponds. On November 5th there were 4 adult and 1 immature on the Fish-ponds; on 6th 3 adult and 1 immature birds at Juhos-hát. By 12th it was not more than 1 adult specimen which stayed in the area. On November 21st SZABÓ came across 1 immature bird at Zám; at the same time I noticed 10 adults first on the Fish-ponds, then in the evening in the wood of Juhos-hát. On 22nd SZALONTAY saw 1 immature eagle at Pozsgán, and on 23rd SZABÓ 1 aged bird at Mátá; on 25th and 27th SZALONTAY observed 1 – 1 immature eagles near Sáros-ér which still could be seen there on 28th, too. On November 28th, the day preceding the first heavier snowfall, I counted all in all 31 specimens, the one part of them on the Fish-ponds and the other, by the evening twilight at Juhos-hát. So far I have not seen yet so many white-tailed eagles together! On December 4th SZABÓ noticed 2 immature birds in the poplars of Sáros-ér at Zám; at the

same time SZALONTAY makes mention of 1 immature bird which stayed a Merges-torok; on December 7th I could meet no more than 3 adults and 3 immatures at the Fish-ponds, partly due to the snowy and frosty weather which became steady at that time, and partly because the usual reed cutting started. Afterwards I have seen not even a single bird for a long time. However, there were still a few which stayed on in the southern regions: on December 14th SZALONTAY makes mention of 1 immature eagle near Sáros-ér, and on 20th again 1 immature bird was seen by him on the sweep (lever) of well of Új-kút. At the end of the year there were but 2–3 eagles which passed the night in Ohat, and even they did not stay for a long time.

1974

In 1974 – after a longer interval – I saw the first white-tailed eagle on January 9th, it was an adult bird which was trying to find some dry and dead fish lying on the bottom of drained off ponds at the silent northern part of the Fish-ponds. Next day SZALONTAY observed 1 immature eagle near the fish-pond of Csécs, and the following day another immature bird on the top of the hillock of Sáros-ér. On January 12th I saw 1 adult bird stay in the wood of Juhos-hát, and on January 16th there was another adult specimen in the same place. It was easy to make a distinction between the two birds, because the colour of the latter was different to that of the former. It was on that day that SZABÓ saw a middle-aged, striped-tailed specimen on the Fish-ponds. The bird seen at Juhos-hát has been alone till January 22nd, when two more adults joined it. Next it was on February 2nd that I saw 1 adult eagle at Juhos-hát which other 3 adults associated with on 4th of the same month. On February 6th there is an adult bird sitting on one of the dry bottoms of the Fish-ponds. By the night 3 immature and 3 adult birds alight in the wood of Juhos-hát to spend the night there. On February 8th I met all in all 3 adults and 3 immatures on the Fish-ponds, but – may be – it was those I had seen on February 6th. It happened on February 15th that we noticed a pair make an attempt at breeding on the second occasion in the wood of Ohat. This day one of the birds of the eagle-pair was sitting on the nest, while the other rested on a near by branch. By the night 3 adult birds alighted in the wood of Papegyháza. It does not often occur that they take a rest here, and it was the first time I had seen them come there. On February 16th SZABÓ saw 3 eagles over the ponds of Fényes. On February 19th the eagle-pair is still sitting in the usual way in the wood of Ohat, without doubt the hen-bird in the nest and her mate near her on one of the dry branches of the close by tree. On February 21st 2 adult eagles stayed at Juhos-hát. Next day I saw 3 specimens (1 adult and 2 immatures) wheeling over the nest at Ohat. On February 23rd there took place a hunt in the wood concerned, and from now on the eagles disappeared from the area. This day SZABÓ came across 1 immature bird near Sáros-ér. On March 3rd there is not a single eagle in Ohat, but in the regions towards the east there were 26 adult and 6 immature birds to be seen distributed as follows: 2 aged eagles eating fish on the top of the hillock of Varga; in the puszta of Kecskés 5 very fallow-, 2 speckled-tailed- and 2 immature birds resting; 2 birds (1 adult and 1 immature) wheeling over the Fish-ponds; 2 adults resting on 1–1 posts in the Fish-ponds; farther 2 adults fishing, and in another pond 1 adult eagle doing the same; 3 other birds sitting on posts, and 1

wheeling over water accompanied by 2 immature eagles; east to the ponds 1 adult bird flying, and 7 adult sitting on the ground, or on the rail of bridge respectively; finally 1 immature bird and 1 adult one resting in the wood of Juhos-hát. On March 6th the neighbourhood of the nest in Ohat is still silent. On March 7th and 8th there are 2 aged eagles spending their time on the top of the posts in the water-basin of Borsós. On March 11th the white-tailed eagle-pair appeared again in Ohat, however, they have been bustling about the nest but for some days. From March 15th on they disappeared from the surroundings, too. This spring it was on March 20 that I saw the last eagles (1 adult and 1 immature) on the Fish-ponds.

Of the autumn eagles I saw 1 immature bird first over the inundation area of Tiszacsege on November 6th. At the same time there were already 6 in the area of the Fish-ponds. On November 15th I listed altogether 9 birds in the vicinity of the Fish-ponds (1 adult and 2 immatures at Kecskés; 1 immature and 1 adult over the water there; 1 aged with white head and white scapulars near the wood of Hadház; 2 adult on the flat-land of Kunfényes; at last 1 immature over the flat-land of Sárkány). On November 16th there were 4 adult eagles heading for the Fish-ponds from the direction of Máta. On November 18th I saw 2 immatures and 3 adults wheeling over the Fish-ponds. In the meantime, on November 17th SZABÓ observed 1 adult bird in the puszta of Zám. On November 20th there were 1 – 1 adults resting on the rim and on the cross-beam (lever) of the old well of Kunfényes. The same day by the night I saw 2 adults wheeling over the pond of Kondás, and besides these I noticed 2 immatures over Máta. On November 24th there was an adult bird moving around the area of Nyíró-lapos, and next day, on 25th I found 1 immature and 1 adult birds just here. All three of them showed interest in the white-fronted geese which had been killed by the wheat with caustics containing mercury. On December 17th 1 speckled-tailed specimen sat in the wood of Ohat; 2 immatures were sleeping in the wood of Meggyes; and finally, on December 21st I saw 3 adults on the Fish-ponds. Later on, up to the end of winter there were altogether 1 or 2 eagles which stayed – always for a short time – in the wood of Ohat.

1975

On January 3rd in the wood of Ohat I saw a white-tailed eagle of strikingly small figure the tail of which, however, was white as snow. It was hardly greater than a well-statured buzzard. On January 6th I met 2 eagles again, this time in the other part of the wood concerned. On January 8th there was an adult bird perching on the top of the "Francia" well in the north-east corner of the Fish-ponds; at the same time I saw 1 immature bird at Juhos-hát. On January 10th, in the same place I found as much as 1 adult and 3 immature eagles. The 2 immatures of the wood of Meggyes have regularly been passing the night there since the middle of December, and they begin to disappear not later than from February 18th. On January 23rd I saw 1 adult bird on the pond of Gyökérkút and 1 immature one in the area of Darassa near the road of Tiszacsege. On February 13th 2 specimens (1 immature and 1 adult) wheeled over Darassa; on the Fish-ponds 2 immatures and 1 adult are trying to find food. This day there are 33 white-tailed eagles (22 adults and 11 immatures) which alight in the wood of Juhos-hát for the night! The interval between the arrival of the single specimens is sometimes very

long. This suggests that the birds gathering here come practically from every direction from the vast area of Hortobágy. While I was staying there the arriving eagles first alighted on the ground in the farther parts of the puszta, and no sooner than after my departure did they head for the wood. Owing to darkness I could not see those to arrive last. In the course of gathering they often change their places, and also their barking-like voice can often be heard. On February 14<sup>th</sup> the 2 immature birds still staying here can be found in the wood of Meggyes; apart from these there are 3 eagles at Göbe of Tiszacsege, and 4 others at Bivaly-halom near Újszentmargita which are spending their time at these places; both parties of birds can be seen for many weeks. On February 21<sup>st</sup> I saw 34 eagles (24 adults and 10 immatures) alight in the wood of Juhos-hát! On February 27<sup>th</sup> 1 adult bird spent its time on the ponds of Gyökérkút; on March 6<sup>th</sup> 1 immature eagle stayed at the water-basin of Borsós; 2 adults and 3 immatures in the puszta of Kecskés; 1 adult and 2 immature eagles on the Fish-ponds, and 4 adults as well as 11 immatures at Juhos-hát. The following day I counted 18 white-tailed eagles in the wood of Juhos-hát; on March 8<sup>th</sup> I observed 1 adult and 1 immature specimens attracted by about 5500 geese which kept on moving in the area. On March 13<sup>th</sup> altogether 6 adults and 8 immatures spent their time both in the puszta of Kecskés and on the Fish-ponds; in the afternoon 3 adult and 4 immature eagles were seen in the vicinity of Juhos-hát. It is to be expected that all of them flew to the same place in order to pass the night for the following few hours. On March 14<sup>th</sup> I noticed 2 immatures in the puszta of Kecskés, 2 adults and 4 immatures at the Fish-ponds; 1 adult and 4 immatures in the flat-land of Kondás, and finally 1 adult and 2 immatures near Juhos-hát. Two days later 3 adults and 7 immatures were seen to move between the wood of Juhos-hát and the Fish-ponds. Next day, on March 17<sup>th</sup> I noted down 6 adults and 3 immatures on the Fish-ponds. On March 19<sup>th</sup> 3 adults and 5 immatures alighted in the wood of Juhos-hát, and (hardly seen before) 2 birds (1 adult and 1 immature) perched on the locust which stands in the north-west corner of the wood of Papegyháza. On March 27<sup>th</sup> I saw the latter at the same place; but there were already 5 adults and 6 immatures which spent the night in Juhos-hát. On April 3<sup>rd</sup> 2 eagles (1 adult and 1 immature) stayed at the "Francia" well that stands near the north-east corner of the Fish-ponds, and also 2 birds (1 adult and 1 immature) spent their time at Juhos-hát. On April 6<sup>th</sup> again 1 adult and 1 immature stayed at the "Francia" well, but on April 9<sup>th</sup> and 10<sup>th</sup> already 2-2 adults could be perceived from a very great distance. On April 13<sup>th</sup> 1 adult eagle stayed at Kondás-fenék and 1 immature bird in the flat-land of Kunfényes; next day 1 adult spent its time near the "Francia" well at Papegyháza. On April 16<sup>th</sup> I saw 1 immature eagle wheel over the Fish-ponds, and 1 adult specimen sat on the flat dike of Kondás. On April 25<sup>th</sup> also 1 immature and 1 adult flew to and from over the Fish-ponds. It occurs but very rarely that the white-tailed eagles remain here by month May. In spite of this fact I observed 2 specimens (1 adult and 1 immature) between Kondás-fenék and Papegyháza; on May 9<sup>th</sup> I saw already not more than 1 adult white-tailed specimen east from the Fish-ponds over Darassa, and in all probability it was the same bird I had noticed - still on May 15<sup>th</sup> - at the same place. This was then the last spring datum of 1975 I had noted down about their occurrences. This year

there was not even a single white-tailed eagle the occurrence of which in the southern part of the area of Hortobágy I would have heard of.

Realizing the poor adaptability of the white-tailed eagle we should take more care of this ageing species which ought to be treated as a treasure of ours, because it *seldom occurs, even all over Europe, that this species would simultaneously appear in another place* — though during migration — *in as large mass as in this country in Hortobágy.*

In the future, in order to protect the white-tailed eagle we want to introduce the following regulations in the area of the Hortobágy National Park:

1. Steps should be taken to ensure perfect tranquillity to the place as well as to its surroundings in which attempt for nesting is to be expected in the wood of Ohat;

2. Care should be taken for a permanent quietness regarding the resting and sleeping places of the eagles (woods of Ohat and Juhos-hát);

3. Their feeding should be organized first of all during the time of severe frost and snowfall.

The fact of how the number of their successful nestings and that of the passing or wintering specimens would develop in the future will in all probability be one of the touchstones of the effectiveness regarding our nature conservation.

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## A rétisas a Hortobágyon

*Fintha István*

A rétisas [*Haliaeetus albicilla* (L.)], ez a valaha egész Európában közönséges ragadozó, ma már alig néhány helyen fordul elő a szubkontinensen, még kevesebb vidéken szaporodik. Meggyérülésének (mely jelenség az utóbbi évtizedekben helyt-helyt katasztrofálisan gyors) okai között nemcsak az öregedő faj erőteljes kultúrakerülése említhető, hanem számottevő szerepet játszik élőhelyeinek (fészkelési lehetőség, ill. alkalmas zsákmánymennyiség) fogyása, valamint az élőhelyek és a táplálékfeleségek erőteljes vegyszeres szennyeződése.

Egykor a magya Alföld kútágasos pusztáinak is jellemző madara volt, és a vizektől járt üde erdők óriásfáin rakott hatalmas fészket találni nem ment ritkaságomba.

A rohamosan teret hódító mezőgazdaság elől hátrálva a múlt század vége felé már mindinkább visszahúzódott a nagyobb folyók ember nem járta ligeteibe és a lusta sodrú szakaszok sűrűn benőtt szigeteinek még zavartalan mélyére.

Míg az 50-es évekig — úgy tudjuk — 9—10 pár is fészkel az országban, az idő teltével ezekből jó, ha 2—3 pár maradt, de egyes években néha semmi hírt nem hallani költéséről.

Még mindig jelentős azonban a kóborlásban levők itt-tartózkodása. Zömük északról jön a hidegek, különösen a jég miatt, illetve a táplálékhiány elől vándorolva. Egy részük 5—6-os kisebb csapatokban itt telel. Legtöbbet mindig a legzavartalanabb területeken látunk, hiszen rendkívüli módon kerüli az embert. A Hortobágy, kiterjedt, csendes pusztaságaival így régtől fogva híres előfordulási helye.

Újabb időkben már a Hortobágyon is csak a téli félévben, de még mindig rendszeresen tanyázik a nagy vízfelületek közelében, a Halastavak környékén s a déli, tágasabb szikes pusztákon. Általában november első hetében érkezik és március második felében tér vissza távoli költőhelyeire. Az első őszi példányok sokszor már október végén láthatók, de a többség az időjárás téliesre váltása előtti napokban jön. November második felében számuk hirtelen ugrik fel 15—25-re, sőt nemritkán 30 fölé is. A vastag hótakaró és a tartós fagyok idejére, amikor a vizeket jégkéreg vonja be, többségük odábbáll, hiszen itt igen szűkösen jutnának ekkor ennivalóhoz. Etetésük jelentősége ezért igen nagy: egyrészt helyhez köti a madarakat, másrészt a kórokozóktól és mérgektől mentes ennivaló nem okoz elhullást vagy szaporodásképtelenséget.

Az egész Hortobágyon telente rendszeresen legalább 8—10, újabban ennél is több példány időzik. Zömük Ohat és Mátá között, kisebb részük pedig egyesével-kettesével szét-szóródva a Sáros-ér, Kónya, Nyírőlapos, Meggyes-erdő térségében található. Többségük a Juhos-hát alig 1 hektárnyi kis akácosában éjszakázik. A környéken ősztől tavaszig alig jár ember, így a nyugalom és a környezet nyíltsága a sasok számára igen kedvező. Az itt időző példányok kihullatott tollainak mennyisége és tarkasága mindig árulkodik a vendégek számáról és koráról.

Az őszi átmeneti felszaporodáshoz hasonlóan márciusban ismét tetőzik számuk. Az el-költözők távozta után áprilisig, sőt április végéig is kitart 2—3 példány, elsősorban fiatalok vagy meddő, ill. pár nélküli maradt öregek.

Minden ellenkező adattal szemben, a rétisas a Hortobágy térségében emberemlékezet óta nem költ. Csak a közelmúltban figyeltünk meg két — sajnos — sikertelen fészkelési kísérletet.

A rétissal, ezzel az öregedő fajjal — felismerve rossz alkalmazkodóképességét — többet kell törődnünk. Kincsünként kell kezelni, hiszen *Európa-szerte is ritkaság az, hogy — jöllehet kóborlás idején — valahol egyszerre olyan tömegben mutatkozzék, mint hazánkban, a Hortobágyon.* Védelme érdekében a Hortobágyi Nemzeti Park területén a következő előírásokat kívánjuk alkalmazni:

1. Biztosítani kell a fészkelésre alkalmas hely zavartalanságát.
2. Gondoskodni kell pihenő- és hálóhelyeinek mindenkori nyugalmaról.
3. Meg kell szervezni — főképp a zord téli időkben — megfelelő táplálékhoz való juttatásukat.

Természetvédelmünk hatékonyságának egyik próbaköve lesz az, hogy sikeres fészkeléseinek s az átvonuló vagy telelő példányainak száma a jövőben hogyan alakul.