

THE WOLF POPULATIONS (*CANIS LUPUS* L., MAMMALIA, CARNIVORA) IN ROMANIA AND THE HUMAN IMPACT OVER THE LAST TWO CENTURIES

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Die Wolfbevölkerungen (*Canis lupus* L., Mammalia, Carnivora) aus Rumänien und die anthropische Wirkung gegen dieser in den letzten zwei Jahrhunderte. Die Arbeit untersucht die Dynamik der Wolfbevölkerungen aus Rumänien vom Anfang des 19. Jahrhunderts bis in der Gegenwart. Es sind die Ergebnissen der Vernichtungsfeldzüge hervorgehoben, die nach dem Ersten Weltkrieg, besonders in der Zeitspanne 1945–1960 (durch Schuß, Gift, Junggefang usw.) eingeführt wurden. Nur in der Zeitspanne 1950–1959 wurden 26 000 Wölfen vernichtet. Die Bevölkerung dieses Säugetieres ist niemals unter 1 500 Exemplare (Minimum 1560 im Jahre 1970) als Folge der günstigen Lebensbedingungen abgezogen. Ab dem Jahrzehnt 1970–1980 hat die Jagdverwaltung die gute Rolle der Wölfen in den Ökosysteme umgewertet. Vom Jahre 1993 ist der Wolf eine Schutzart erklärt und ab 2005 in dem Roten Buch der Wirbeltieren aus Rumänien eingeschlossen. Heute ist die Wolfbevölkerung aus Rumänien (über 3 000 Exemplare) die größte vom Europa.

1. GENERALITIES

The wolf is a polyphic species, has very well-developed senses and shows vast ecological variation. It has a broad biotope specific to mountainous and hilly forests (when it cannot find food there, it comes down to the plains). He is much on the move and may travel for 40–50 km in search for a meal. The species forms packs of 3–6 (and even over 10) individuals; in packs it may roam along 150–400 km². Wolves are solitary animals (8–28% of the pack) (Ionescu, Ionescu 1997).

Numbers depend not only on the area they live in, but also on the available animal biomass which makes their food. An analyses of the stomach content of 86 specimens made in 1991, showed that 82% of it consisted of different mammalian species: 3% birds, 7% other mammals, and 8% vegetals, of which: 72% wild animals and 28% domestic animals. Dominant wild species: Cervidae (65%), wild boars (17%) and hares (10%); domestic species: mainly sheep (45%), dogs (30%), pigs (12%) and goats (6%) (Ionescu, Ionescu 1995).

The presence of wolves in Romania is connected with the food they find and the behaviour of man, this country being one of the few European lands in which the wolf has survived in large numbers. The paper discusses the impact of man on this species over the last two hundred years.

Since studying the numerical variation of the species populations is an important issue of animal ecology, we consider that the subject discussed herein is of primary interest at a time when biodiversity is permanently being eroded.

2. THE WOLF POPULATION IN EUROPE

In England, Scotland, Ireland and Switzerland the wolf was exterminated in the years 1500, 1743, 1770 and 1872, respectively. In the 19th century, the species became extinct in Germany, The Netherlands, Belgium, Denmark, the Czech Republic and Hungary.

To deal with this situation, the 1970 Conference of the International Union of the Conservation of Nature (IUCN) and the World Wildlife Fund (WWF), held in Morges (Switzerland), decided on

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promoting a better knowledge of and a greater concern for the wolf as a major and useful element of the natural ecosystem (Pop, 1974). In 1973, IUCN initiated, through the agency of the Animal Protection Commission, a protection plan for this species, its preservation and perpetuation being based on the fact that wolves are a factor of natural selection within the ecosystems, and too tight control might lead to the degeneration of herbivorous species.

In 1973, at the Stockholm Gathering of the IUCN, a group of profile specialists elaborated a “manifest for the conservation of the wolf”, in which, among other things it says, that “like any other wild animals, wolves have the right to exist irrespective of their value for mankind. On the contrary, their right to life derives from the right of any living being to cohabitation as a component part of the natural ecosystems” (Filipașcu 1977, p. 120).

At present, there exists an “European Association for the Full Protection of the Wolf”, its protection being ensured also under the Pan-European Strategy for the Conservation of Biological and Landscape Diversity (PESCBLD).

Since in the past few years a few countries (France, Norway, Sweden, Finland and Slovenia) acquired a better understanding of the role of this species in nature, the wolf populations have begun a timid recovery.

Alongside the other big carnivores (lynx and bears), wolves are currently considered a priority for the conservation of nature and true “indicators of fauna and flora conservation levels” (Promberger, Ionescu 2000, p. 2).

3. NINETEENTH-CENTURY TESTIMONIES

In 1818, the English traveller Adam Neale recalled that in the surroundings of the city of Iași, “packs of hungry wolves, emerging in the long winter night from the adjoining hilly woods, invaded the fields and carried off domestic animals and sometimes even women and children” (Nedici 1940, p. 552).

In Transylvania, a document (*lat. Urbarium*) dated 1819 and signed by the Austrian Emperor Franz I, stipulated that serfs were obliged to three days of action / year in order to destroy predators, among which was the wolf.

In 1841, the Moldavian Ministry of Internal Affairs took measures to have the wolves, “a true calamity”, put out. The campaign lasted until 1845.

The Decision (“Anafora”) issued by the Administrative Council on November 4, 1842, and sanctioned by Ruling Prince Mihail Sturza, read that wolves could be hunted any time, in forests with battues or by other means. As a result, between 1841 and 1845 a number of 1,401 wolves (1,230 mature specimens – 87.8% and 171 cubs – 12.2%) were killed in Moldavia (Table 1).

Table 1

The number of wolves killed in Moldavia (1841-1845)

Year	1841	1842	1843	1844	1845
Number	113 mature wolves	198 mature wolves	318 mature wolves, 59 cubs	340 mature wolves, 11 cubs	261 mature wolves, 101 cubs
Total	113	198	377	351	362

Source: Nedici, 1940.

The reward given by the Ministry of Finance (“Vistieria”) was prize money, the sum amounting to 20,482.5 lei (18,450 lei for mature individuals and 2,032.5 for the cubs).

Worried because domestic animals fell prey to the wolves by the thousands, Barbu Știrbei, Wallachia’s Minister of Finance, issued circulars (December 28, 1843) to all county authorities to gather all villagers, some beaters, others gunmen, to hunt in crags, and forests catch and kill as many of these beasts as possible. So, until March 4, 1844, 72 wolves were exterminated in Ialomița County alone (maximum 4 in each in the Sărățeni, Rași, Dridu and Coșereni villages) (Geacu, Berghea 1999). What

led to the proliferation of the species was a ban on hunting imposed to peasants by Pavel Kiseleff, the Russian Governor of the Romanian Principalities (1829–1834) in order to avoid a possible uprising.

The mid-19th century authorities of Transylvania province, plagued by wolves since the end of the 18th century, decided to organise official hunts to deal with the problem. Hunters were awarded with 12 florins (1852) for every wolf they killed. As a result, 2,316 animals were hunted down over 1853–1856 (Table 2), about 1,700 over 1859, the same figure being reported in the following years. In 1855, they set up a wolf hunters association (Wolfsschützen).

Table 2

The number of wolves killed in Transylvania (1853-1856)

County / Year	1853	1854	1855	1856
Sibiu	101	64	82	101
Odorhei	118	52	–	97
Bistrița	134	82	84	87
Orăștie	–	199	225	230
Brașov	–	94	75	102
Oradea	–	–	87	–
Dej	–	–	75	–
Alba Iulia	–	–	75	–
Cluj	–	–	43	–
Târgu Mureș	–	–	18	–
Others	–	–	91	–
TOTAL	353	491	855	617

Source: Nedici, 1940.

The Law of 1876 stipulated that both serfs and free-men were entitled to take part in wolf hunts. In Maramureș, the tall was 25 wolves in 1865 and 52 in 1866, the award being 8 florins for each wolf killed. After 1880, when the use of poison was allowed, the number of these animals decreased dramatically. In 1884, in the 22 Transylvanian counties, 461 specimen were hunted (Olteanu 1934) (Table 3). The price was 16 crowns for killing a male and almost double (30 crowns) for a female.

Table 3

The number of wolf specimens hunted in Transylvania in 1884

County	Năsăud	Hunedoara	Maramureș	Caraș and Severin	Bihor	Arad	Sibiu	Mureș	Turda	Cluj	Satu Mare
No. specimens	70	64	52	41	39	34	26	20	18	15	12
County	Someș	Trei Scaune	Odorhei	Ciuc	Alba	Timiș	Făgăraș	Brașov	Târnava Mare	Târnava Mică	Sălaj
No. specimens	12	10	10	10	9	8	4	3	3	1	1

Source: Olteanu, 1934.

In 1886, 37 animals were hunted in the county of Sibiu, some of them shot dead in Sibiu City itself (on February 15 and 17). On February 14, 1891, a wolf was shot in front of Sibiu fortress (Geacu 2006).

In Bucovina (1850–1860) they gave substantial awards to put wolves out. A law passed in 1870 set a price of 10 crowns on each wolf; some hunters would specialise in getting the cubs. The toll was 329 individuals over 1874–1882, and only 61 in the 1893–1897 interval. A decree issued in Basarabia on November 23, 1848 stipulated the creation of such a job as chief hunter whose subordinates were asked to exterminate the wolves.

In Dobrogea, according to 19th century documents, the species increasing numerically began attacking many villages. The laws of the “Hunting Police” of the Romanian Principalities passed in 1891 and 1906 allowed wolf killing all the year round.

4. THE FIRST 20TH CENTURY DECADES. CONTROL ACTIONS

The Hunting Licence Ordinance (1854) and the Hunting Tax Law (1875) reduced the number of hunts in Transylvania. Thus, in 1909, only 191 wolves were killed; in 1914, the hunter received 30 crowns for each animal.

No longer hunted during the World War I, effectiveness increased. Wolves were seen also in the Bărăgan Plain, e.g. close to Bordei Verde Village (Brăila County) 7 specimens were killed on November 22, 1915.

After 1920, a deadly anti-wolf campaign was launched, “unprecedented and merciless, with poison and traps” (Nedici 1940). In the hunting season 1926–1927, 50 individuals were shot dead in the south of the Covurlui Hills (the winter of 1929–1930 saw wolves in Măcișeni Village) (Geacu 2002). That winter 15 wolves were hunted in Caraș County.

In Bucovina, the toll was 50 in 1927–1932, 17 in 1934, 39 in 1935, 21 in 1936 and 33 in 1937. In the basins of the Gârdacu and Deaca brooks (37 km²), two righthandside tributaries of the Bistrița Aurie, 68 wolves were exterminated over the 1922–1939 interval. Provincial documents (1938) speak of a permanent invasion of wolves from the counties of Maramureș and Neamț, as well as from Poland (Philipovicz 1938). Between 1930 and 1939, 85 wolves were put out at the Bistrița springs; In Storojineț County, 66 wolves were hunted over 1924–1937 (Table 4).

Table 4

The number of wolf specimens hunted in Storojineț County (1924–1937)

Year	1924	1925	1926	1927	1928	1929	1930	1932	1933	1934	1935	1936	1937
No. specimens	3	7	2	5	10	8	11	4	1	3	7	2	4

Source: Revista Vânătorilor, no. 5, 1938.

In the Caraș County, wolves wrought havoc among the deer, killing 18 in one week alone, and over 100 fawns were found dead in the Gurghiu Mountains.

The 1930–1947 interval saw 68 wolves dead (Philipovici 1947) in the south of the Rodna Mountains and from 1936–1946, 240 animals were gunned down in the former Someș County (Kornis 1947).

During the inter-war period Carpathian wolves were not particularly targeted because they were not a “plague” there (Witting 1934, p. 267). In Caraș County, for example, they killed 16 (1927), 8 of which in the surroundings of Reșița Town. In Baia County (the north of Moldavia) only 5 (April 1, 1939 – March 31, 1940); Bihor County: 4 (1934), 7 (1935) and 21 (1936); Dolj County: 16 (1935–1936); Târnava Mare County: 17 (1935), 8 (1936) and 7 (1937); Dolj and Romanați counties: 3 (1939).

In the south of Dobrogea: Chioseaidin Commune, Durostor County: 4 (February 26, 1924); Caraomer (today Negru Vodă) Commune, Constanța County, 15 (1926–1927). Many wolves were seen on the Black Sea Wolves Levee (1939).

The total number of wolves killed in Romania over 1938–1939 was of 860 (Romașcanu 1940).

5. THE YEARS 1940–1949

Since most hunters were called up and sent to the front, and obtaining a gun licence was fairly difficult for civilians, and moreover ammunition was quite expensive, poaching (of deer in particular) became a wide practice, sharply reducing wolves feeding chances. All in all, the species multiplied significantly. In view of the general military, political and social situation of those hard war years, wolf control had but modest results despite official acts being issued in this respect.

For example, in 1942, an all-out war year, only 172 specimens were killed in the whole country (Table 5).

Table 5

The number of wolves exterminated in România in 1942, (county data).

County	No. specimens	County	No. specimens
Hunedoara	22	Tecuci	3
Alba	16	Olt	3
Ilfov	13	Caraş	2
Făgăraş	13	Romanaţi	2
Turda	9	Sibiu	2
Braşov	8	Vâlcea	2
Gorj	7	Arad	2
Brăila	6	Muscel	2
Fălciu	6	Cernăuţi	1
Argeş	5	Covurlui	1
Botoşani	5	Iaşi	1
Târnava Mare	5	Prahova	1
Neamţ	5	Roman	1
Bacău	4	Rădăuţi	1
Baia	4	Soroca	1
Bihor	4	Severin	1
Dolj	4	Teleorman	1
Constanţa	4	Câmpulung Moldovenesc	1
Putna	3	Buzău	1

Source: Revista Vânătorilor, no. 7, 1943.

In 1943, in the former county of Târnava Mare, wolves were in such numbers as never seen before, and they destroyed 80% of the deer stock, also causing serious damage to people's households in the previous winter 1942/1943 (*Carpații*, 7, p. 191). Many wolves roamed also in the Apuseni Mountains, producing significant damage in 1938 (Vancea 1939); in 1942, their number was larger there than in any other part of Transylvania (Cotta 1942, p. 180).

The Decisions issued by the Ministry of Agriculture and Public Domains in 1942 and 1945 authorised the poisoning of wolves with strychnine capsules (initially nitric, but also sulphuric after 1948). The Order No. 310019/1947 provided for strychnine to be distributed in as many places as possible.

A decision of 1945 allowed shepherds to carry a fire-arm at the fold in order to protect the sheep and cattle from bears and wolves.

The Circular No. 300478/January 30, 1946 issued by the Game Direction informed the County Hunting Inspectorates that "the excessive proliferation of wolves during and after the war produces serious damage not only among non-predatory game, but mostly among the domestic animal stock. You shall take the necessary measures to immediately start a campaign of wolf eradication by using all and every means".

That the wolf populations were extremely vigorous is illustrated by a wolf caught in a trap (February 1943) which had a 2.5 m-long fur (*Bucovina Forestieră*, 1943).

The total number of wolves exterminated in Braşov County varied (Table 6).

Table 6

The number of wolf specimens hunted in Braşov County (1936–1948)

Year	1936	1939	1940	1943–1944	1945	1946	1948
No. specimens	40	13	52	47	18	34	55

Despite the war, the winter of 1943–1944, saw 47 wolves shot (57.5 %), or poisoned (42.5 %) (Table 7), because they used to feed on deer and boars. The Braşov Hunting Inspectorate reported that "the most drastic measures have been taken in order to control them the same throughout the county" (Navrea, 1944, p. 7).

Table 7

The number of wolves exterminated in the winter of 1943–1944 in Braşov County

Hunting Society	No. wolves shot	No. wolves poisoned
Societatea Română de Vânătoare Braşov	4	11
Kronstädter Jagdverein Braşov	15	–
Societatea „Ciucaşul” Braşov	–	1
Societatea vânătoarilor din judeţul Braşov	2	1
Societatea „Piatra Craiului” Zărneşti	1	3
Societatea „Brădet” Vulcan	2	–
Societatea „Izvoarele Buzăului” Întorsura Buzăului	2	3
Societatea „Bran” Bran	1	1
TOTAL	27	20

Source: Navrea, 1944.

In the war years, wolves came to be a calamity in the Azuga Valley basin located in the north of the Prahova County (Dumitrescu 1944, p. 122).

The lack of food in the higher regions made them migrate to the lowlands and the Danube Delta as far as Lăceni (Teleorman County), Teslui (Olt County) and Cernica (Ilfov County) in 1941; Atmagea (Tulcea County), Hagiieni (Constanţa County), Siliştea (Vlaşca County), Vameş, not far from Galaţi and Schineni (Tutova County) in 1942; Turnu Măgurele on the Danube and Negru Vodă in South Dobrogea and Balta Ialomiţei in 1943. In December 1944, wolf packs were reported in the forests of Basarabia (Străşeni), in 1944 at Prisecani (Iaşi County). The few wolves which did exist in Basarabia and Transnistria fed on the corpses of horses fallen in battle (Philipovicz 1944). At the beginning of 1949, a specimen was hunted just in the outskirts of Constanţa City.

In Ialomiţa County (September 1946), wolves could be seen in „reed plots and boggy woods”; in July 1947, they roamed throughout the territory. In the West Plain, at Tinca (Bihor County) and Beliu (Arad County) many wolves would roam about in the winter of 1946/1947 („although a rarity in the past, this time it was actually an invasion” (*Carpaţii*, 1, 1947, p. 21).

Only on the territory of the former Suceava County, 600 deer were eaten up by wolves over the 1944–1949 period.

In 1946–1948 the Game Direction decided to „intensify wolf control”.

Decisions issued by of the Ministry of Agriculture and Public Domain stipulated an award for each wolf killed of 300 lei in 1938, 500 lei in 1941, 2,000 lei in 1942, 4,000 lei in 1945, 30,000 lei as of Aprilie 1, 1946, 500 lei (after the monetary reform) as of November 1, 1947 the sum being doubled in 1948 (1,000 lei) and raised to 2,000 lei in 1949.

The December 1948 cross-country toll was of 25 of animals in 12 counties; 57 in January 1949 in 20 counties (max. 9 in Braşov), 168 in February in 23 counties (most of them in Ciuc 19, Putna 18, Cluj 16, Alba 12 and Făgăraş 10). The money paid totalled 104,000 lei in January 1949 and 356,000 lei in February, 1949.

Wolf control had to be „a systematic regular and unceasing action on all types of land, by all and every means, an all-year-round action” (Philipovici 1947).

In 1949, they started a „wolf hunting campaign to destroy the enemy No. 1”. The result was the extermination of 150 animals in 1948 and 1,200 in 1949, 840 of them in the first 10 months.

6. CONTROL ACTIONS OVER 1950–1959

In the interval 1950–1957, Romania’s wolf population varied between 3,800 individuals (1956) and 5,600 (1952) (Anghelide 1958).

The Ministry of Forest Management issued a Decision (1952), whereby he who killed a wolf received a 50 lei award.

In view of the size of the wolf population at the time, and the huge damage they wrought among the wild fauna, the state-owned livestock and in individual farms holds, and moreover the danger of rabies transmission, the then Romanian Government issued two normative acts.

Thus, the Decision of the Council of Ministers No. 108 / January 13, 1953 stipulated the elimination of wolves in the shortest period of time, their elimination in Romania being an action of public interest. To this end, all forest-rangers and hunters were mobilized, each hunter being obliged to take part in 5-team actions /year. Hunters from enterprises and institutions could be summoned for maximum 5 days/year. The hunter was to receive 150 lei for each adult animal killed and 75 lei for each cub caught in the den and killed. At the same time, 1,000 iron traps were to be manufactured.

Since, the number of animals continued to be pretty high, a similar decision (No 1341 / August 22, 1957) was issued a few years later, which maintained the tasks inscribed in the Decision of January 1953, this time awarding 300 lei for each adult animal and 150 for each cub captured and killed.

Under article 4 the local institutions were obliged to mobilize the population for wolf control actions.

As of 1950, the deadly poison used was also letholine (Floda 1950).

The animals killed rose to 420 between January 1 and February 11, 1950, and to 550 in the first three months of 1951 (46 in Braşov, 39 in Hunedoara, 37 in Sibiu, 36 in Cluj, 31 in Gorj, 31 in Argeş and in other counties). In 1954, 2,514 wolves were killed on the hunting grounds of the Hunters Associations: 1,609 (64%) were shot, 343 (14%) were poisoned, 75 (3%) were caught in traps and 487 (19%) were captured in the den.

Over 1950–1959, more than 26,000 wolves (with a peak of 3,600 individuals in 1959) were exterminated in Romania and in the 1954–1964 decade 28,108 mature wolves and cubs were killed (Almăşan, Ionescu 1993).

Control actions in the 1950s and 1960s were intense, sustained and well-organized (Table 8).

Table 8

The number of wolf specimens exterminated in Romania (1950–1968)

Year	1950	1952	1954	1956	1959	1965	1966	1968
No. specimens	1515	2510	3444	3172	3600	1040	940	1210

Source: Anghelide 1958, Geacu 2007.

Furthermore, the reader finds some examples of the situation in various zones of the country.

On the territory of Muntenia, in the former Ploieşti Region: 63 wolves were hunted in the first trimestre of 1953 and 94 more in 1957. In the Argeş area: 64 in 1950, 95 in 1951, 153 in 1954 and 1,043 over the 1955–1958 interval. In 1954, wolves were spotted at the periphery of Bucharest City.

In January and February 1954, wolves in Oltenia attacked people's cattle around Târgu Jiu Town. In the surroundings of Râmnicu Vâlcea, they hunted 109 animals in 1954 and 56 around Slatina from 1955 to 1958. Lots of cubs were killed, e.g. 38 in Gorj County during the first three months of 1950.

Many wolves were hunted even in Dobrogea (Table 9).

Table 9

The number of wolf specimens hunted in Dobrogea (1954–1959)

Year	1954	1955	1956	1957	1958	1959
No. specimens	36	55	39	19	97	51

A number of 83 animals were killed in Bucovina (1952), 302 more in 1954 (141 poisoned, 84 shot and 77 by other means), 27 in January alone.

In Moldavia, in Neamţ area, 68 animals were exterminated in 1954 and 40 in 1955; in the former region of Bacău they killed 62 in 1951 and 131 in 1954; in 1958, 184 wolves were put to death in Iaşi Region and 123 in Galaţi Region; in 1954, 34 individuals were hunted in the surroundings of Huşi,

and 49 around Tecuci (1950). Wolves reached up to the outskirts of Iași City. On January 27, 1952, only three individuals from a pack of were shot in Aroneanu Forest (near Iași City).

In Transylvania, in the former Cluj Region, they killed 168 specimens from November 1952 to February 1953 (109 shot, 39 poisoned and 20 cubs captured). Between 1953 and 1967 a number of 3,134 animals were exterminated (1,494 – 47% poisoned; 659 – 21% shot; 144 – 4% caught in traps and 837 cubs – 28% killed in the den). In Maramureș, they put out 101 in 1955 and 162 in 1956. In 1951, near Solduba village (Satu Mare County), the wolves killed weighed 86 kg. Around Bistrița Town the toll was 44 adults and 13 cubs in 1953, 24 in 1954 and 31 in 1957; in Mureș County it was 96 in 1950 (49 shot, 33 caught in traps and 14 poisoned); 162 were hunted in the counties of Mureș, Harghita and Covasna (1956); 58 in the former Brașov Region in the first half of the year 1951 and 154 adults and 17 cubs in the first six months of 1955. A similar fate had 83 wolves (1950) and another 60 in 1957 in the Sibiu area; 78 in the first half of 1950 in the Huedin area; 83 in the former Oradea Region (1953) and 154 in the former Timișoara Region (1953–1959).

But for all the control campaign launched at the end of the 1940s and the beginning of the 1950s, 50 wolves wrought havoc among the deer (19 in the woods near Sovata, Mureș County, 1952/1953) and 27 in the Gurghiu Mountains (Birăescu, 1987). The deer suffered severe damage in February, 1954 and December, 1957.

In 1959, among the goals of the “predator control action”, they introduced also one stipulating “the national interest for preserving the autochthonous fauna”; however, the wolf continued to be the “great enemy of the game”, therefore “it should be controlled by all means and energy to the ultimate limit”. The Ministry itself gave some dispositions for leading wolf hunters to receive freely special shooting licenses for deer, roebucks, bears, bustards, swans, pelicans and pheasants (Vânătorul, 6, 1953, p. 2).

Since in those years Cervidae and Suidae were scarce, numerous wolves used to feed mainly on domestic animals.

7. THE WOLF ISSUE OVER 1960-2000

In the 1960-1970 interval, wolf effectives dropped, but a timid increase was recorded during 1975–1993 (Table 10), protection laws stimulating the development of the species.

Table 10

The evolution of wolf specimens in Romania (1960–2000)

Year	1960	1963	1965	1970	1980	1990	1991	1994	1997	2000
No. specimens	3,100	2,300	1,700	1,560	1,900	2,516	2,400	2,700	3,900	3,000

“Wolf control should continue, but without exterminating the species” (Cotta, Bodea, 1969, p. 214). In 1972, control hunting was still in place in Romania.

Because wolves used to eat up domestic animals, arm-fires were being used in controlling them (night watch, battue), iron traps, chains, toxic substances sprayed on corpses (strychnine, letholine, cyanide K). There were years (e.g. 1963) in which “the best wolf hunter” contest was being organised.

The peak control decade was 1960–1969.

A great number of wolves were killed in the Subcarpathian mountainous area: Piatra Neamț (65 in 1961), Suceava (73 in 1960, 112 in 1964), Târgu Ocna (20 in 1960), Ruică-Argheș (27 in 1965), Târgoviște (13 in 1963, 50 in 1965), Câmpina (23 in 1960, 20 in 1962), Brașov (47 in 1964, 20 in the last part of 1966), Râmnicu Sărat (9 in 1963, 18 in 1965); 11 in the surroundings of Focșani Town in February 1965.

Some experienced hunters could exterminate numerous specimens (a hunting guard from Bistra commune, Alba County, shot 76 wolves in 1968 and in January-May 1969).

In the winter of 1964–1965, wolves decimated all the deer from the Iara Basin (Apuseni Mts). Within a lapse of 25 years (1961–1986), 1,948 animals (74 / year on average) were killed in Suceava County. In Iacobeni Forest Range each winter (1957–1966), 20–30 hinds would fall prey to the wolves; in Cărlibaba Forest Range, wolves ate up 177 deer and 66 roebucks (in the winters of 1975–1980).

In 1990, the damage produced by wolves in Bucovina amounted to 3,363 domestic animals (3,246 sheep, 112 cattle, 4 horses and one pig).

Lots of wolves were killed in the former administrative regions, e.g. Ploiești (57 in 1963), Oradea (23 in 1962, 35 in 1963 and 18 in 1965), Timișoara (149 in 1962), Iași (39 in 1959 and 55 in 1960), Dobrogea (12 in the first four months of 1961), Argeș (141 in 1963 out of which 57 were shot, 39 poisoned with strychnine capsule, 14 caught in traps, 14 poisoned with liquid strychnine, 10 with letholine and 7 with cyanide K) (Georgescu, 1964).

A significant number of wolves were hunted in some tableland areas, e.g. in Băcești Forest Range (Vaslui County) 27 (1959–1962) and 50 more in the spring of 1966; 27 cubs were captured in 1960–1963. In Moțca area (Iași County), 21 (February 1962). Control killings were conducted in Aiud (23 in 1965), Sighișoara (18 in 1960), Lipova (25 in 1965), Turda (24 in 1960, 31 in 1961, 18 in 1964 and 34 in 1965), Sibiu (30 over January – September 1963, 23 in the second half of 1964), Alba Iulia (16 in 1960), Jibou (18 in 1960), Vaslui (14 in 1960 and 8 in 1963), Balș (13 in 1964 and 7 in 1965), Caransebeș (12 in 1962). In the reed-plots of the Prut River (Lunca Banului village, Vaslui County) 18 wolves were shot in 1960 and another 10 in May, 1964 near Moldovenești (Cluj County); 28 in the spring of 1971 at Moșna (Sibiu County) and 14 in 1962 near Ardusat (Maramureș County).

In the first week of 1962, 5 animals were gunned down in the surroundings of Deva Town, several specimens being hunted in the Baisa Woods, near Botoșani Town in 1969.

As from the end of the 1960s, the number of animals killed dropped significantly, e.g. only 16 in Argeș County in 1967; 26 in Hunedoara, 16 in Prahova and 6 in Gorj in 1968; 20 individuals in Suceava and Bistrița-Năsăud each, and 16 in Harghita 1969; 30 in Sibiu and only 2 in Iași in 1970; 22 mature animals and 16 cubs in Bistrița-Năsăud (1972) and only 3 in Galați (1973).

After 1967, the wolf began to disappear in many lowlands and low tablelands. The last specimens were hunted in 1968 (Giurgiu County), 1971 (Balta Brăilei), 1973 (near Adam, Galați County), 1979 close to Dridu (Ialomița County), 1981 near Băneasa (Constanța County), 1985 in the vicinity of Cerna (Tulcea County) and Nițchidorf (Timiș County); 1987 in the surroundings of Leleasca (Olt County), 1989 near Grajduri (Iași County) and 1994 near Șișcani (Vaslui County). As from 1970, this mammal became a rarity even in Vâlcea County (source: *Vânătorul și Pescarul Sportiv*, no. 9, p. 27).

In other lowland areas, the last specimens were reported in 1968 (Vadu Lat Forest, Giurgiu County), 1972 (near Drăgășani), 1972–1973 (near Ileanda and Sâncrai-Dobrin, Sălaj County), 1974 Brânzeasca Forest (Ilfov County, where they attacked the fallow deer and the roebuck), 1976 (the Olt Floodplain at Milcov-Slatina) and in the neighbourhood of Saschiz (Mureș County).

At the end of the 1970s, wolves could still be encountered, largely in mountain regions. Saving them from a steeper decline was achieved by increasing the populations of Cervidae and Suidae; moreover, access to many Carpathian forests being quite difficult was also to their advantage.

Filipașcu (1977) opposed the idea that the wolf is harmful to the fauna and therefore must be controlled. He pointed out the authentic functionality of this carnivorous animal within its ecological niche, advocating the biological and ethic reconsideration of this species in the light of the scientific truth (p. 118).

The unusual specimens hunted over that period show that Romania's wolf population was a very vigorous one. Illustrative in this respect is a record big wolf (2.2 m long, 78 kg) shot on January 31,

1971 at „Cărbuniș”, on the territory of Șieu-Măgheruș commune (Bistrița-Năsăud County). That same spring another specimen, long of 2.16 m was shot in Gura Ațel Forest (Nemșa Commune, Sibiu County). A 2 m-long wolf, weighing 90 kg was gunned in 1988 near Talea (Prahova County).

The control of predators (wolves included) was a dynamic, organised action aimed at striking a balance between prey and predator. Filipașcu (1977) mentioned that the then population had reached a sub-minimal threshold so that the damage they caused was fairly sustainable (p. 120). Simu (1988) noted that „wolves, alongside the useful game in this country, constitute a cynegetic stock much envied by other countries, and therefore their presence in the autochthonous fauna should not be put in jeopardy” (p. 13).

After 1980, the interest in wolf hunting waned because of lower effectiveness and lower awards, the ban imposed on toxic substances (which had affected also other species, some of them rare ones) and little use of traps (as many carnivores, which were not targeted, fell in e.g. the lynx). For all that, wolf control had to continue in „a rational, methodic way (Bulgărescu 1985), chased and reported immediately... to be hunted more assiduously” (Simu 1988). Some suggested that „cubs found in the den... should be preserved and sold to wolf-purchasing countries” (Cristoveanu 1991, p. 9).

In 1988, proposals were made for wolf hunting to be licenced (Podani 1988), the cynegetic administration admitting to the necessary existence of the wolf in ecosystems. Nevertheless in 1990 and 1991, 455 and 875 animals, respectively were killed (Almășan, Ionescu 1993).

In 1990, the wolf populations in Romania numbered 2,516 individuals (Ichim 1994), most of them living in the counties of Caraș-Severin (239), Hunedoara (225), Maramureș (165), Sibiu (160) și Vâlcea (110).

Protection measures taken since the 1990s, led to a gentle increase of the species, wolves being signalled also in some lowlands (e.g. in Dobrogea and in the woods south of Iași).

After 1997, the species started being hunted again (Negruțiu *et al.* 2000, p. 132).

8. STATE-OF-THE-ART

At present, Romania's wolf population (3,000 individuals) is the largest in Europe (with the exception of Russia). It is twice that of Ukraine and Spain, about 7 times that of Poland and Slovakia and 10 times that of Lithuania and Italy. The wolf is spread out in the rich forested Carpathian and Subcarpathian areas (over 100 individuals being found in each of the following counties: Maramureș, Hunedoara, Mureș, Suceava, Sibiu and Covasna).

It is missing from 30% of the counties (Dolj, Olt, Teleorman, Giurgiu, Ilfov, Călărași, Ialomița, Brăila, Tulcea, Galați, Vaslui and Botoșani). In the lowland areas from the south and east of Romania its place was taken by the jackal.

In conformity with the IUCN classification, the wolf is designated a vulnerable species and proposed to be put on the Red List of Romania's fauna (2000). In 2005, it was listed in the Red Book of Vertebrates in Romania (Murariu, 2000, 2005).

Until the beginning of the 1990s, the wolf could be hunted all the year round; but under the Cynegetic Fund and Game Protection Law 103 / 1996, hunting this species was forbidden, a provision maintained also in the current Law of Hunting and Protection of the Cynegetic Fund (407 / 2006).

The wolf appears as a strictly protected species also in the Law No. 13 / 1993, Annex 2 for Romania's adherence to the Convention on the Conservation of Wildlife and Natural Habitats in Europe (Berna, 1979) and in the Romanian Government's Emergency Order (No. 236 / 2000, Annex 4) on the Regime of Protected Natural Areas, Conservation of Natural Habitats, of the Wild Flora and Fauna.

Being a species of community interest and enjoying strictly protected status, the wolf is listed also in Annex 4 A of a similar Emergency Order (No. 57 / 2007).

However, if they cause damage, wolves care be controlled in terms of the harvesting figure set at county level and approved by order of the Ministry of Agriculture, Forests and Rural Developpement.

9. CONCLUSIONS

The marked (territorial and populational) dynamics of this species depends on a series of trophic factors, habitat and human impact. Because of its life-style, setting the exact number of wolves is a very difficult task, therefore what is available are „only estimated figures” (Alaci 2006).

The wolf is a necessary component of the ecosystems, therefore it must be preserved within its natural biotopes. Being a predator situated at the top of the trophic pyramid, the wolf prevents the excessive development of plant-eating mammals, being involved in maintaining the quality of the populations it prays on (especially the deer). „It was the wolf and not man who preserved the vigour and quality of trophes in the populations of roebuck, deer and boar and, moreover, their state of health” (Ionescu, Ionescu 1995).

It has also a sanitary role, cleaning the ground of corpses.

The management of this species has in time proved a controversial issue. In the 19th and early 20th centuries, the anthropic impact was not particularly severe, so, despite control actions, the population’s vitality was not put at risk. During the two world wars, control having ceased (and the Cervidae which are an essential component of wolf’s food were decimated), the species proliferated, causing serious damage.

At the beginning of 1943, the editors of the Carpathian Journal maintained that „a certain contingent of wolves is useful even, being a factor of selection”; however, there „are times when they become a threat, a calamity, being a terrible danger” (No 1, p.1).

The basic mangement idea was to have the wolf destroyed (1948), strictly controlled as of October 1950 and simply controlled from the end of 1951 on.

The species had to be kept „under control” lest it should cause damage to the domestic and wild fauna, as well as to peoples households when the spontaneous fauna (no longer sufficed to feed them wolves, would attack domestic animals). In Comşia’s view (1961), control measures should be put in place when the density of the predator has reached a destructive level. In the 1950’s and 1960’s, in order to redress the biological balance between predator and non-predator game, wolves were being controlled numerically. As from 1970, controlling cubs in the den was no longer a choice, nor was poison (banned in 1991).

In the 1949–1979 interval, a campaign was launched for the severe reduction of the number of wolves by shooting, poisoning and capture of cubs. This campaign was sustained by material incentives. After 1980, the interest for wolf hunting waned.

The growth of wolf effectives over the past few decades has been directly connected with a growing population of deer and wild boar and the reduced pressure on domestic animals (Almăşan, Ionescu 1993).

Planned control of wolf effectives had in view to protect the non-predatory game and leave predators to discharge their natural functions in the wild (Gângă 1994).

In Romania, there have indeed been periods in which the size of the wolf populations would fluctuate significantly, but for all the intense extermination campaigns it never dropped below 1,500 individuals due to the shelter they found in the forested Carpathian massifs. So, an essential element of the holarctic fauna, the wolf is basic to maintaining the geosystems ecological balance.

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