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CHANGES IN POPULATION STATUS AND NEST RANGE DISTRIBUTION OF FALCONIFORMS IN THE USSR SINCE 1950

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Introduction

A starting point to measure changes in nesting ranges of birds of prey during the last thirty years is volume 1 of *Birds of the Soviet Union* (Dement'ev and Gladkov 1951). Recent alteration of range configurations for most species is a result of more complete surveys of bird fauna in some regions (especially in the north and east). However, for some raptor species there are data to suggest real increases or decreases of nesting ranges. To estimate changes in populations, data from permanent or repeated surveys over 10-20 years on the same areas were collected (e.g., Galushin 1971).

Population estimates and range changes given below should be considered as preliminary. They are calculated for large regions on the basis of publications and accounts by many ornithologists: A. S. Malchevski and Yu. B. Pukinski (Leningrad district); I. A. Niefeldt (Karelia); E. V. Kumari and T. Randla (Estonia), G. R. Kasparson and J. Viksne (Latvia); A. M. Dorofeev, B. Z. Golodushko, V. V. Ivanovski (Byelorussia); V. M. Zubarovski, Yu. V. Kostin (Ukraine); Yu. V. Averin, I. M. Ganya (Moldavia); B. O. Geilikman, A. V. Abuladze, A. K. Unanyan (Caucasus); G. A. Krivonosov (Volga delta); V. A. Popov, S. G. Priklonski (Volga-Kama region); N. N. Danilov (Yamal); V. E. Flint, A. A. Kistchinski, Yu. V. Labutin, A. A. Vinokurov (northern Siberia); N. S. Pankin (middle Amur Valley); E. G. Lobkov (Kamchatka); A. K. Rustamov, A. N. Sukhinin (Turkmenia); I. A. Dolgushin, S. N. Varshavski, E. I. Gavrilov, G. V. Lindeman (Kazakhstan); V. M. Galushin (European center of the USSR, northern Vologda district, Onega peninsula); and many others.

Species Accounts

Osprey (Pandion haliaetus). In contrast with the data of Dement'ev and Gladkov (1951), there are doubts about its nesting south of the Caucasus. New nest records are needed to provide evidence of nesting in that area. In the southern part of the range, populations declined up to the beginning of the 1970s. At present some local populations continue to decrease, while others (mostly in the North) are more or less stable. Approximate numbers in various regions: European center of the USSR (about 270,000 km² around Moscow)—not more than 50 nesting pairs; Leningrad district, Estonia, and Latvia (altogether about 200,000 km²)—approximately 50 pairs; Onega peninsula at White Sea (about 20,000 km²)—approximately 120 pairs; Lower Volga—not less than 100 pairs; it is absent in the Crimea and Northern Caucasus. *Red Data Book of the USSR* status: rare.

Honey Buzzard (Pernis apivorus). Nests have been located north of previously known range limits (European USSR, south to western edge of Caspian Sea, east to Semi-paletinsk, northwest to Ob' River). In recent years populations have been stable or

slightly increasing. European center of the USSR—more than 4,000 pairs; Estonia—more than 100 pairs; northern Vologda district (approximately 10,000 km²)—about 400 pairs. Crested Honey Buzzard (*Pernis ptilorhyncus* = race of *P. apivorus* in Brown and Amadon 1968). New nest records have been obtained west and northwest of previous limits of the range (eastern Siberia).

Red Kite (*Milvus milvus*). Nesting in Latvia and Lithuania is doubtful. No data are known of nesting in Caucasus. Data on numbers are scarce. The general range was from Estonia and Byelorussia south and west (Dement'ev and Gladkov 1951).

Black Kite (*Milvus migrans*). Recent northern range limits are a little north and northeast of previously known limits (south of the White Sea in the west, and south of the area just north of the junction of the Vilyuy, Lena, and Aldan Rivers in Siberia). It is the second most numerous raptor species (after Buzzard). European center of the USSR—about 7,000 pairs (some 30 percent of total raptor numbers); Estonia—20–30 pairs. Along valleys of large rivers the number is decreasing owing to disturbance by tourists, campers, and others.

Hen Harrier (*Circus cyaneus*). Both northern and southern range limits moved to the north (formerly north of Vilyuy River to mouth of Kolyma River in Siberia). In the European part of the USSR it occurs up to the coast of the Arctic Ocean. It is absent in the Crimea, Caucasus, and southwest of the Carpathian Mountains. Number fluctuates annually; however, some increase in isolated areas cannot be excluded.

Pallid Harrier (*Circus macrourus*). Some moving of range limits to the northwest (formerly south of near 55° north and east to Cheremkhovo) is possible, as well as a total increase in the population.

Montagu's Harrier (*Circus pygargus*). Northern range limits extended up to about 60°, i.e., 300–500 km north of Moscow and the junction of the Irtysh and Ob' Rivers in Siberia. Although the number fluctuates annually depending on food resources, it is possible some increase in the population has occurred in the last 5–10 years.

Pied Harrier (*Circus melanoleucus*). New breeding records are known north as well as northwest of the previously known range limits (Amur Region). Number fluctuates, but some total increase cannot be excluded for recent years.

Marsh Harrier (*Circus aeruginosus*). Number decreased before the end of the 1960s. Presently populations are relatively stable.

Goshawk (*Accipiter gentilis*). Populations declined noticeably before the end of the 1960s. At the present time populations are more or less stable. European center of the USSR—approximately 1,600 pairs.

Sparrowhawk (*Accipiter nisus*). Presently known northern range limits are about 100–200 km north of previously known range (south of a line from the mouth of Kolyma River in the northeast to the White Sea in the west). In the 1970s populations began to grow after a serious decline in the 1960s. European center of the USSR—more than 4,000 pairs; Estonia—about 800 pairs; northern Vologda district—some 600 pairs.

Lesser Sparrowhawk = Japanese Lesser Sparrowhawk (*Accipiter gularis*). New nesting records north of the formerly known range (southeast corner USSR). Numbers relatively stable.

Levant Sparrowhawk (*Accipiter brevipes*). One of the lesser-known species. Scarcity of reliable data on nesting is mostly due to difficulties with field identification. The nesting range is likely to have decreased everywhere (south of Voronezh), but south of Caucasus Mountains the species is not rare and even occurs in some parks and gardens.

Shikra (*Accipiter badius*). In Middle Asia it sometimes nests in towns and villages. Numbers relatively stable. (General range in USSR, southern Ukraine, and Caucasus Mountains).

Grey Frog Hawk (*Accipiter soloensis*). The first nesting was recorded in the USSR (near Vladivostok City, southeast corner USSR) in 1974.

Rough-legged Buzzard (*Buteo lagopus*). Number fluctuates in various areas annually. General range is south to approximately 61° N., but the species does not occur in all of this range. Reliable signs of decreases have not been noted.

Upland Buzzard (*Buteo hemilasius*). Near Blagoveshchensk City at Middle Amur River nesting is recorded 400–500 km northeast of former range limits. A summer record is noted also in southern Yakutia. Extension of the range is probable. Number is generally stable despite annual fluctuations.

Long-legged Buzzard (*Buteo rufinus*). Western limits of principal range retreated to the east; at present range limits are drawn through central areas north of the Caucasus Mountains. Single pairs nest in southeast Ukraine and Lower Don River. To the east of Volga the density is high in some areas.

Common Buzzard (*Buteo buteo*). Near northern limits of range, nests are found 200–300 km north and northeast of previously known limits (south of a line from Yakutsk to Yeniseysk and the White Sea). Some expansion to the northeast is likely to occur. The density is relatively high everywhere; usually it makes up 60 percent of the total number of birds of prey. In the middle 1960s numbers became stable; during recent years numbers have increased slowly in some places. European center of the USSR—up to 18,000 pairs; Estonia—more than 1,000 pairs; northern Vologda district—more than 1,000 pairs.

Grey-faced Buzzard (*Butastur indicus*). Changes in the nesting range (southeast corner USSR) or numbers are not known.

Short-toed (or Serpent) Eagle (*Circaetus gallicus*). Exceptionally rare in the European part of the range. However, in Middle Asia common and in some places numerous. *Red Data Book of the USSR* status: rare.

Booted Eagle (*Hieraetus pennatus*). Some expansion of nesting range to the northwest, north, and northeast. Uncommon everywhere. Moldavia (about 35,000 km²)—about 30 pairs. Data on nesting in southern Siberia are very scarce.

Bonelli's (or African Hawk) Eagle (*Hieraetus fasciatus*). No reliable observations of nesting within the USSR for several decades.

Tawny (or Steppe) Eagle (*Aquila rapax*). Western limits of nesting range retreated to 800–1,000 km to the east for the last 20–30 years, namely, from Moldavia to central areas north of the Caucasus Mountains. Isolated pairs nest in Ukraine near Lower Dnepr' River (Askania Nova). Within a principal part of present range (southwest Siberia), it is common and even numerous in some places. *Red Data Book of the USSR* status: rare.

Greater Spotted Eagle (*Aquila clanga*). Some changes in the northwest part of range (as far north as 65° N across Siberia, active nests in Karelia) as well as in the eastern part (at Baikal Lake and even further east). In southern parts of range populations are decreasing. Leningrad district, Estonia and Latvia together—about 30–40 pairs; northern Byelorussia (about 40,000 km²)—20–30 pairs; Moldavia—12–15 pairs.

Lesser Spotted Eagle (*Aquila pomarina*). Eastern range limits are not clear because in the field it is practically impossible to distinguish from *A. clanga*. Estonia and Latvia

(together about 110,000 km²)—more than 100 pairs, and the population is relatively stable; Moldavia—approximately 20 pairs.

Imperial Eagle (*Aquila heliaca*). Northern limits (Ukraine) retreated 200–300 km to the south. In the western part of range number is decreasing; in the eastern part (to Lake Baikal area), more or less common. *Red Data Book of the USSR* status: rare.

Golden Eagle (*Aquila chrysaetos*). Southern range limits (approximately 50°N) in the European part of USSR retreated 300–500 km to the north, but it is difficult to draw them precisely owing to exceptional scarcity of the species there. At present it is not likely to nest south of a line from Kiev to Moscow to Kazan. It is very rare almost everywhere except in some regions (northern taiga, northeastern Siberia, southern ridges). Onega peninsula—approximately 30 pairs; northern Byelorussia—8 pairs; Estonia—12 pairs; Latvia—2 pairs; Moldavia—1 pair. In most parts of range, populations are still decreasing. *Red Data Book of the USSR* status: rare.

Pallas' Sea Eagle (*Haliaeetus leucoryphus*). Last reliable records of nesting were obtained 20–30 years ago. Occurrence of young birds suggests species is breeding in the USSR, but the range is spotty (Kazakh and south). *Red Data Book of USSR* status: rare.

White-tailed Sea Eagle (*Haliaeetus albicilla*). The range (all across northern USSR up to 75°N) in the south consists of some narrow belts along large rivers. Nesting in the Crimea, southern Ukraine, and northern Caucasus is not noted. Numbers were definitely decreasing up to the beginning of the 1970s. At present in some parts of the range this decline continues; in other areas populations are relatively stable. Southern Yamal (about 30,000 km²)—40–60 pairs; Volga delta—about 150 pairs; Oka Valley within Ryazan district (approximately 500 km²)—2 pairs; Estonia—10–12 pairs; Latvia (65,000 km²)—1–2 pairs; Moldavia—5 pairs. *Red Data Book of the USSR* status: rare.

Lammergeier (or Bearded Vulture) (*Gypaetus barbatus*). Populations are likely continuing to decline. Caucasus—about 10 pairs; in Middle Asia it occurs rarely. *Red Data Book of the USSR* status: endangered.

Egyptian Vulture (*Neophron percnopterus*). Number is decreasing. The range is spotty: Moldavia—about 5 pairs; Crimea—2–3 pairs; Caucasus—no less than 30 pairs; in Middle Asia numbers not known.

Griffon Vulture (*Gyps fulvus*). Populations are declining everywhere because of disturbance at nesting sites and lack of food. Crimea—about 10 pairs; Caucasus—probably less than 100 pairs; in Middle Asian mountains numbers not known.

Himalayan Griffon (*Gyps himalayensis*). Nesting records are practically absent. *Red Data Book of the USSR* status: rare.

Black Vulture (*Aegypius monachus*). Number decreases steadily. The range is spotty. Disappeared from Moldavia; Crimea—about 5 pairs; Caucasus—50–80 pairs. *Red Data Book of the USSR* status: rare.

Gyr Falcon (*Falco rusticolus*). Exceptionally rare in the European part of the USSR. Number is probably continuing to decrease although some former nesting territories are being used on the eastern Kola Peninsula during recent years. In eastern Siberia it occurs infrequently: southern Yamal—15–20 pairs. *Red Data Book of the USSR* status: endangered.

Saker Falcon (*Falco cherrug*). Some nesting records are obtained north of formerly known range limits (approximately 60°N across Siberia). In the western part of the range it is rare (Moldavia—about 20 pairs) but in some eastern regions, numerous. *Red Data Book of the USSR* status: rare.

Lanner Falcon (*Falco biarmicus*). The only active nest of the species in the USSR was found in the summer of 1949 in southeastern Azerbaijan.

Peregrine Falcon (*Falco peregrinus*). Exceptionally rare everywhere but on the tundra. Within the forest zone nesting records are isolated; it does not nest in the forest-steppe or steppe. It probably remains in the Crimea and Caucasus. By the beginning of the 1970s Peregrines disappeared from Estonia and Latvia. Population decreases occurred everywhere. During the last 2–3 years in some isolated areas (for instance, the Taimyr Peninsula) a trend of reoccupation of some deserted territories has begun. Central Taimyr (500 km²)—8 pairs; Yamal (some 120,000 km²)—100–200 pairs. *Red Data Book of the USSR* status: rare.

Barbary Falcon (*Falco peregrinoides*, treated as subspecies of *F. peregrinus* by Brown and Amadon 1968). Extremely rare in Middle Asian mountains where approximately 50 pairs nest.

Hobby (*Falco subbuteo*). Numbers began to stabilize at the end of the 1960s. At present, numbers increasing in some regions. European center of the USSR—some 2,500 pairs; Estonia—about 500 pairs; northern Vologda district—not less than 600 pairs.

Merlin (*Falco columbarius*). Populations are stable or slightly increasing. A rather high density in the forest-tundra zone along railways as well as near settlements where crow nests are abundant. In the vicinity of the railway station at Sivaya Maska (northeastern Komi ASSR), there are up to 5–6 pairs per 10 km². It is scarce in the forest zone and Kazakhstan steppe region.

Kestrel (*Falco tinnunculus*). Nests are observed 200–500 km north and northeast of formerly known range limits (south of approximately 60°). Some true range expansion is likely beyond the normal fluctuations which occur in accordance with food supply. In the forest zone it is rather scarce and sporadic. In the forest-steppe, common. Populations declined up to the beginning of the 1970s, but at present there are some signs of population stability. Kestrels often nest in parks and suburban forests. European center of the USSR—about 3,500 pairs.

Lesser Kestrel (*Falco naumanni*). Northern limits are likely to have moved 100–200 km to the south (from former range line across southern Poland to 49° N in the Ukraine, to 55° N in central Siberia). At the same time there are some nesting records west of previously drawn range limits into Europe.

American Kestrel (*Falco sparverius*). New species in avifauna for the USSR. The only known case was collected in the summer of 1963 near Talin (Estonia). It is possible that the bird was freed from a cage.

Red-footed Falcon (*Falco vespertinus*). Range limits expanded a little to the northwest, north, east, and southeast. (Former range limits approximately from the White Sea west to Vilyuysk in the north, and from the north shores of the Black and Caspian Seas west to Irkutsk). Distribution is sporadic. Number fluctuates annually. In some areas slight increases are likely occurring.

Amur Red-footed Falcon (*Falco amurensis*) (treated as subspecies of *F. vespertinus* by Brown and Amadon 1968). There are nesting records north and west of previously known range limits (from the southern tip of Lake Baikal west toward the Amur River). It is numerous in some areas.

Discussion

Analysis of the above sketches shows an absence of a general trend in population and

range changes common to all raptor species. In contrast, 15–20 years ago a decline in populations of the great majority of raptor species was obvious. The main event which prevented a further decrease of raptor populations was legislation approved in the mid-1960s which banned mass destruction of raptors and provided full protection for all species of falconiforms and strigiforms. However, the effectiveness of this important legislative measure turned out to be different for various groups of falconiforms.

Stability and population increases have occurred in some common raptor populations: Buzzard, Honey Buzzard, Hen Harrier, Sparrowhawk, Hobby; in isolated areas a trend toward stability has been noted for populations of Black Kite; Crested Honey Buzzard; Montagu's, Pallid, Pied, and Marsh Harriers; Long-legged Buzzard, Upland Buzzard, Rough-legged Buzzard; Lesser Sparrowhawk; Shikra; Goshawk; Merlin; Kestrel; Red-footed Falcon; and Amur Red-footed Falcon. For these species persecution by man was probably the main cause of population declines. Therefore, removal of this pressure allowed populations to stabilize and even increase in areas where suitable habitat was available and where raptor populations were not unduly influenced by other limiting factors.

The group of raptors whose populations are increasing includes those species which normally are the most numerous. For instance, at a study area in Vladimir district (175 km west of Moscow) the total number of all nesting raptors increased an average of 18 percent between 1973 and 1975 compared to the level in 1963–1965. This total increase was due mostly to greater abundance of common species such as Buzzard, Kestrel, Sparrowhawk, and Honey Buzzard. A similar situation was noted in the western part of the Moscow district, i.e., a 50 percent increase in raptor numbers of that area was primarily due to larger populations of Kestrels and Sparrowhawks. In the Oka Nature Reserve and its vicinity (Ryazan district) the total number of birds of prey in 1977 turned out to be practically the same as 20 years ago (there was an increase of about 5 percent). High stability is evidence of suitability of these raptor populations to the ecological capacity of habitats on the reserve as well as protection of the entire complex. It is important to note that all three rare species, the White-tailed Sea Eagle, Short-toed Eagle, and Osprey have remained nesting there over the last 20 years.

Unfortunately, quite an opposite situation is observed in populations of many large raptors outside the reserves. The populations of the Peregrine Falcon, Golden Eagle, Tawny Eagle, Imperial Eagle, Spotted Eagle, White-tailed Sea Eagle, Pallas' Sea Eagle, Lammergeier, Egyptian Vulture, Griffon Vulture, Black Vulture, Short-toed Eagle, Osprey, and others, as a rule, have continued to decline. For these species not only direct persecution but some other negative factors influence population stability: reduction of nesting habitats, disturbance, pesticide influence (mostly at wintering places), shortage of food, etc. Additionally, populations of some raptor species probably became so reduced that their management demands special measures, such as protection of individual nests, setting up of artificial platforms, feeding, and captive breeding.

For some rare species (Pallas' Sea Eagle, Himalayan Vulture, Bonelli's Eagle, Levant Sparrowhawk, Red Kite, Barbary Falcon, and Gyrfalcon) we lack reliable facts to appraise properly recent trends and the real status of their populations. Fourteen species of falconiforms are listed in the *Red Data Book of the USSR* as rare or endangered. However, recent data are likely to produce some changes in the status of species listed in the second edition of the *Red Data Book of the USSR*. There seem to be sufficient grounds to include, for example, Levant Sparrowhawk and Bonelli's Eagle, and exclude

Tawny Eagle and Saker Falcon populations which are estimated to include thousands of nesting pairs.

Summary

In the USSR some expansion of the nesting range of ten species is indicated: Kestrel; Red-footed Falcon; Hen, Pallid, Montagu's and Pied Harriers; Black Kite; Buzzard, Upland Buzzard; and Booted Eagle.

Shrinking of ranges is more or less proven for 12 species: Lanner and Peregrine Falcon; Red Kite; Griffon and Black Vulture; White-tailed and Sea Eagle; Pallas's Sea Eagle; Levant Sparrowhawk; Long-legged Buzzard; Golden, Imperial, and Tawny Eagle.

For some species new records gave a more precise picture of previously known limits of nesting range: Osprey, Honey and Crested Honey Buzzard, Sparrowhawk, Lesser Sparrowhawk, Spotted Eagle, Saker Falcon, Lesser Kestrel, and Amur Red-footed Falcon.

Either range limits of other falconiforms have not changed, or we do not have enough comparative data to measure such changes.

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