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CHAPTER 24

Research Priorities for Bird Conservation in Russia

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Conservation Issues and Previous Research

Occupying 17 million square kilometers (about 11 percent of earth's land area), a major part of which is still wild, with natural or close-to-natural bird habitats, Russia supports 732 bird species (Flint 1995). About twenty of these nest exclusively (or almost so) within Russia. Thirty-five are globally threatened, and twenty-one more are included in lists of near-threatened and conservation-dependent species (Collar, Crosby, and Stattersfield 1994). Russia is the population center for the great majority of waterfowl and waders in the Eastern Hemisphere, similar to Canada and the United States in the Western Hemisphere. Many waterfowl and waders nest in Russia and migrate to winter in western Europe, south and Southeast Asia, and Australia, thus playing a vitally important role in natural ecosystems and hunting economies of the many countries covered by their nesting and wintering ranges and the migratory pathways between. Healthy bird-nesting habitats in Russia means healthy migratory and wintering populations in western Europe, Africa, and southern Asia.

With the drastic changes in the socioeconomic situation in Russia over the last five to seven years, governmental supervision and regulation of nature conservation and environmental education were suddenly weakened. In some areas nothing replaced the previous methods of management and conservation. As a result, the general state of bird conservation and study deteriorated. Consequently, priorities for research and activity in the field of bird conservation need to be changed in accordance with the new reality of life in post-USSR Russia.

To better understand the impact of socioeconomic changes in current conservation priorities, a short review of past avian conservation and research efforts is presented.

Coordination of Research and Conservation Organizations

Bird conservation research in the former USSR was characterized by comprehensive coordination, planning, and funding through a well-developed, broad system of scientific, educational, and conservation organizations (Ilyichev and Flint 1982). Bearing in mind the large size of the country, ornithologists themselves sought such coordination in order to avoid duplication and concentrate efforts on important priorities. One of the most effective tools for coordination was regular conferences, workshops, and other scientific and conservation meetings.

The most significant of these meetings were the USSR Ornithological Conferences, from the first in Leningrad in 1956 to the tenth (and last) in Belorussia in September 1991, just three months prior to the disintegration of the Soviet Union. All conference expenses were paid from the state budget. Thanks to such support, many hundreds of ornithologists from all regions participated in meetings to discuss scientific findings and problems, or simply to meet each other regularly. The XVIII International Ornithological Congress in Moscow in August 1982 also offered a unique chance for Soviet ornithologists to exchange views and data with their foreign colleagues.

Since 1962, coordination of ornithological conferences, bird research, and conservation has been performed on a permanent basis by the USSR Ornithological Committee. The committee was included in the highest scientific body in the country, namely the USSR Academy of Sciences. After 1991, however, the committee ceased to exist. At the end of the 1980s, State Committees on Nature Conservancy functioned in the USSR and all republics. These were later transformed into ministries, but quite recently the aforementioned ministry in Russia was divided into the Ministry of Natural Resources and the State Committee on Environmental Conservation (GosComEcologia). Now, endless bureaucratic games will certainly prevent them from effective conservation of nature.

At the beginning of the 1990s a key position, the president's adviser on environmental protection, was instituted. Well-known zoologist and popular conservationist Professor Alexey Yablokov was appointed to that position, and he began pressing the government for solutions to environmental problems, including protection of wildlife and biodiversity as a whole. When his important position was simply terminated, the high officials that remained in position paid little attention to solutions of urgent environmental problems, despite a number of bilateral agreements and international conventions of environmental character signed by the Russian Federation.

Three major nongovernmental organizations have been addressing avian conservation in Russia for the last three decades: the All-Russian Society for Conservation of Nature, the USSR Ornithological Society, and the Movement of Student Brigades for Nature Defense.

The All-Russian Society for Conservation of Nature was formed in 1924. At the end of the 1980s its membership exceeded 30 million—over 20 percent of the population of the country. At present the membership has decreased 80 percent. Initially, the society was quite effective, particularly in the field of bird protection, thanks to well-known ornithologists, ecologists, and conservationists. Despite a general decrease in participation, some regional and local parts of the society continue to struggle for protection of birds and their habitats.

The USSR Ornithological Society was established in 1983 with the support of the Academy of Sciences. At the end of the 1980s its membership was over 2,500 ornithologists from all republics of the USSR. Its priorities are bird study and conservation, organization of conferences, and publications. Working groups on cranes, waders, bustards, raptors, and some other birds began in the society. Publication of popular books and papers on birds and their protection has been widely supported by the society through a contest named after the late naturalist and author Professor Alexander Formozov. Regional divisions of the society are active in protection of birds and bird habitat and in environmental education. A significant shortcoming of the society, though, is its failure to promote widespread bird-watching as the most reliable way to introduce people to bird study and conservation. The main cause of this was and is a shortage of inexpensive, popular field guides on the birds of Russia. After the USSR split, the society was renamed the Ornithological Society.

The Movement of Student Brigades for Nature Conservation appeared in the 1960s mostly in universities and other institutions of higher education. The first brigade was formed at Moscow State University in 1960. During the 1970s and 1980s, student brigades were the major force in the field of nature conservation. At that time, over one hundred brigades formed throughout the country. Their major activities were: (1) fighting violations of nature-protective legislation; (2) environmental education; and (3) scientific research. The movement was fully independent of governmental administrations and self-supported in both funding and structure. At the end of the 1970s, the movement established the program Fauna to promote bird study and conservation among young people. The program was successful in collecting data for red lists of rare birds, widespread environmental education, and preparation of proposals for protected areas.

An important product of the student movement was activists. Many now work in various capacities to benefit conservation of nature in Russia. Volunteers from nongovernmental environmental organizations used weekends and out-of-work periods in the field pursuing nature protection. Thanks to cheap transportation, volunteers were mobile and effective, and impressive results were achieved from small expenses but great enthusiasm.

Unfortunately, at present, most such enthusiasts lack the opportunities to continue in conservation activities. The majority are students, teachers, and young scientists who are forced to search for extra jobs to support their very existence; their "basic" salaries seldom exceed $50—80 per month and are often paid with three-to-five-month delays. Thus, volunteers lost both their free time and their ability to pay reasonable membership fees. Now expensive transportation has practically stopped travel to the field. These new circumstances, aggravated by cool attitudes of administrators toward the conservation movement, significantly affect its activity at the present time. Traditional nongovernmental environmental organizations failed to adapt to recent social and economic conditions, which significantly diminished their effectiveness. There is an urgent need to establish a functional network of new nongovernmental environment organizations to readdress vitally important research and conservation priorities. Yet fee-based volunteer organizations are not possible under present economic conditions in Russia. In western countries, the most effective environmental organizations are operated by a paid staff. Well-known examples are the National Audubon Society (USA), Royal Society for the Protection of Birds (UK), Vogelbescherming Nederland, Naturschutzbund (Germany), and the Lega Italiana Protezione Uccelli (Italy), which have thousands of members and multimillion dollar annual budgets. Therefore, our only chance in Russia is to establish organizations with initial support from friendly foreign and international societies. The first such effective new environmental organizations in Russia were the Socio-Ecological Union, Biodiversity Conservation Centre, and several smaller regional groups and societies.

One new organization, the Russian Bird Conservation Union (RBCU), was established in 1993; essential financial support and technical assistance was issued from Vogelbescherming Nederland in 1995. RBCU joins the partnership network of BirdLife International as its Partner Designate. RBCU has sixteen regional branches and about one thousand individual members. The RBCU goals are to organize, coordinate, and support bird conservation in the country. Its first priorities are site and species conservation, mostly covered by two large programs, Important Bird Areas in European Russia, and Globally Threatened Species. The primary activities of the former program are inventory of existing areas and identification of new areas important to birds, and collection of data for a new issue of the European catalog *Important Bird Areas in Europe.* As for the latter program, twenty-three globally threatened bird species occur in Russia, for which National Action Plans for conservation are being developed. The RBCU also publishes bulletins, leaflets, and newsletters and is preparing to publish a *Field Guide on Birds of Russia.* Various activities like Bird Days, Bird of the Year, and participation in World Bird Watching Days are current objectives of RBCU in the fields of ornithological education and public awareness of bird protection. Almost fourteen thousand people from 297 regions participated in the latter events in October 1995 (Lebedeva 1996).

Habitat Conservation

By the beginning of the 1990s, the USSR had established a dense network of Strictly Protected Areas at various levels: Strict Nature Reserves (Zapovedniks), National Parks, State and Local Sanctuaries (Zakazniks), and Nature Monuments (Boreiko 1995, 1996). In 1991 the USSR had 173 Zapovedniks (Krever et al. 1994; Volkov 1996). Five years later there were 93 Zapovedniks and 31 National Parks in Russia alone (over 360,000 square kilometers, nearly 2 percent of the country's total area). There are now 233 such areas in the Moscow region, 216 in Nizhny Novgorod region, and 120 in Buryat region southeast of Lake Baikal.

Conditions in Protected Areas are growing worse, however, due to lack of funds for wildlife research and conservation and the attempts of local people and administrations in some regions to privatize the lands of local Zakazniks. Nevertheless, contrary to pessimistic expectations, the existing system of Protected Areas still functions and is even growing, thanks to the enthusiasm of their staff, authorities within GosComEcologia, and grants from international organizations. Almost all of the Protected Areas conserve some bird habitat; hence, proposals for their continued development remain a research priority for ornithologists.

Rare Species

Before the end of the 1960s, birds in Russia were generally partitioned into "useful" (game, insectivorous, and traditionally respected species such as swans, cranes, white storks, and others) and "harmful" species (granivores, raptors, piscivores, corvids). The former were protected, while the latter were persecuted. After it was proved that such a partition was unnatural, however, attitudes toward birds were changed, thanks to extensive ecological research (Galushin 1963, 1982). After wide and comprehensive discussion, almost all species except the Hooded Crow *(Corvus corone cornix)* have been declared as ecologically valuable and protected.

For threatened and rare species, the *USSR Red Data Book* was formally established by the government in 1974; its two editions were published in 1978 and 1984. The *Red Data Book of Russia,* published in 1983, included 107 of the 732 species recorded in the country. The second edition is under preparation; its larger red list includes 125 bird species or subspecies. By a special decision of the Russian government in 1996, statuses of species in the *Red Data Books* were confirmed by legislative acts: all cited species and their habitats are now strictly protected by federal laws.

Regional *Red Data Books* were subsequently developed that necessarily included species from the USSR and Russian books plus locally rare species. Unfortunately, their quality widely varies from region to region, subject to data collection by local researchers. Preparation and publication of scientifically valid *Red Data Books* for every administrative region (republic, kray, and oblast) are current priorities of local zoologists and conservationists.

Publication of *Red Data Books* stimulated both bird study and conservation. *Red Data* species have been included in federal and local research plans and budgets as priorities, and both work time and money have been allocated for intensive studies. As a result, scientific data on rare bird species have significantly increased. Conservation has also been successful for many rare species.

Population trends of raptors are exemplary of changes seen subsequent to legislative protection and conservation research prioritization (Galushin 1996). Of the thirty-four raptors known to breed in European Russia, two rare species, the Booted Eagle *(Hieraaetus pennatus)* and Red-footed Falcon (*Falco vespertinus*), are recommended for inclusion in the second edition of the *Red Data Book* of the Russian Federation as species of conservation concern. Regarding population trends, all raptors could be distributed into three main categories: (1) species with decreasing populations; (2) species with relatively stable or poorly known population trends; and (3) species with generally increasing populations. These divisions are derived from tentative population trends that are subject to further monitoring. Causes of the above trends are not clear for some of the species, and so thorough studies of raptor populations are also a conservation research priority. Proposals have been developed for national and joint international efforts to study and protect raptors. Breeding ranges and populations of certain threatened and rare European raptors are located almost entirely within European Russia (80–100 percent), yet their distributions and population trends are much less well known here than in western and central Europe. Conservation measures are consequently less advanced in Russia. Likewise, the number of ornithologists and the technical and financial potential for research in the east are hundreds of times smaller than in the west.

To develop scientific bases for their protection, large-scale population studies of raptors in Russia may best be achieved by close cooperation with ornithological and conservation societies, organizations, and foundations from western Europe and North America. An excellent example of such fruitful collaboration is the long-term study of pesticide contamination of raptor eggs in various regions of European Russia by Dr. C. J. Henny from the United States, with many Russian colleagues (Henny et al. 1994, 1995, 1996).

Recent Changes in Bird Conservation and Research

Consequences of the Present Socioeconomic Situation

To summarize the state of bird conservation and research beginning in the 1990s, some achievements and shortcomings have to be mentioned. The major advance in the immediate past has been the administrative and financial support for a strong system of research and conservation by official scientific and environ-

mental structures on both federal and local levels. Such support was strictly planned in advance and thus is far from perfect concerning response to actual day-to-day situations, including international developments in conservation. In order to influence research and conservation directions, both nongovernmental organizations and individual scientists had to be prepared to prove their findings and arguments to high officials in the Academy of Sciences, various ministries, and other governmental and party structures. When such proposals were approved, they immediately became governmental targets and were constrained due to limited personnel, planning, and budgeting.

The breakup of the USSR also resulted in weakening of communications among ornithologists. Coordination between basic science and conservation fell apart. After the tenth USSR Ornithological Conference in 1991, there were no such gatherings in any of the post-USSR countries. Fund allocations to field research in federal and local budgets tended toward zero. Administrative support for strict observation of conservation legislation virtually ceased, and poaching of game and commercially valuable birds such as large falcons became more and more common. With decentralization, regional and local authorities changed hunting regulations to the detriment of sustainable use of game populations. Poor observance of hunting and conservation regulations was only slightly countered by the increased expense of hunting. Illegal capture and smuggling of raptors for falconry or private zoos abroad still weigh heavily on populations of rare birds. In Kazakhstan alone, Saker Falcons (*Falco cherrug*) suffer severe losses from nest robbing and illegal removal (Kenward et al. 1995, 1996); about one thousand sakers were taken from the country in 1994 (Sklyarenko 1995). Curbing illegal removal and smuggling of valuable and rare birds is a vitally important priority of bird conservation in all post-USSR countries.

Nevertheless, some consequences of socioeconomic changes have been positive. Ornithologists are now free to pursue any kind of research. Joint international projects are now possible, including field studies in remote regions of the country. National and international foundations provide grants to support bird research and conservation. Administrative obstacles to information exchange with foreign colleagues and participation in international conferences have been waived. Before the 1990s, only three to five ornithologists from the USSR, funded from the central budget, were allowed to participate in International Ornithological Congresses; in contrast, over fifty participants from Russia, Ukraine, Belorussia, and other former USSR countries took part in the 1994 International Ornithological Congress in Vienna. Their participation, though, was almost entirely supported by the Organizing Committee and various international foundations. With similar support, ten to twelve specialists from the former USSR participated in international conferences on raptors in Germany in 1992, Spain in 1995, and Italy in 1996. For the great majority of ornithologists, however, this remains a very new and yet unresolved dilemma: now they have the rights to go anywhere but lack the money to do so.

Consequences of the economic disaster in post-USSR countries that are negative for the great majority of people are at the same time positive for wildlife. Recent drastic changes in the economy will certainly modify bird habitats and eventually bird populations. Millions of hectares of agricultural lands are being neglected, haymaking has stopped on meadows, and forest clearings are being overgrown. Industrial and agricultural pressures on bird habitats have softened, as have human disturbances. Environmental pollution has sharply decreased. Relief from industrial and agricultural (particularly pesticide) pollution may also be reflected in bird populations and is likewise worthy of thorough research. This unique "natural experiment" across huge areas of eastern Europe and northern Asia should not go unnoticed by ecologists and conservationists.

Research Needed to Further Conservation

In the coming decades, the crucial priority must be a full-scale restoration of the total amount of avian research and conservation to their levels at the beginning of the 1990s. Concomitant to this goal, coordination among research and conservation and greater adaptability to present and potential socioeconomic conditions are essential.

As for avian conservation research, three top priorities are: (1) assessment and prediction of the impact of present socioeconomic conditions on bird diversity and population dynamics; (2) survey and monitoring of bird fauna, populations, and habitats in various regions; and (3) implementation of conservation biology practices, including development of appropriate measures for protection of birds and their habitats. Consequences of the large scale, reduction in human impact on landscapes for bird species diversity, distribution, and population changes also warrant thorough scientific investigation.

Finally, changes in human attitudes to various birds (game, rare, so-called "useful" or "harmful," etc.) under present social, economic, cultural, and educational conditions also merit study. Biologically appropriate recommendations for adequate response to population changes must be developed by both governmental and nongovernmental conservation organizations.

Research Needed to Assess Bird Populations

The huge size of Russia and its rich biodiversity mean that populations of the same species in different regions are unevenly known. Generally speaking, rare and game bird numbers are better studied everywhere; the reliability of assessment of other bird populations varies from region to region. In some cases original data are widely scattered in the literature and hidden in often obscure local publications. Hence, one priority is population assessment supplementing available data with further surveys. This is vitally important in the context of the

BirdLife International Project for determination of Important Bird Areas. The European Bird Atlas approach of using standard 10 x 10- or even 50 x 50-km plots is impossible in the vast territory of Russia, with its relatively few ornithologists and inadequate transportation. Therefore, the only means of preliminary population assessment for many bird species is via extrapolation of available data from limited areas. To make such extrapolations more reliable, surveys in key areas must be performed.

Such projects could be more efficiently carried out jointly with international or foreign support. For example, the Important Bird Areas (IBA) Project in European Russia is currently being undertaken by the RBCU with substantial support of both Vogelbescherming Nederland and BirdLife International. Data obtained through this project could later be used for better bird conservation within IBAs and as nuclei for threatened species population assessment by extrapolation to large areas. Another example is a computer database at the Novosibirsk Institute of Animal Systematics and Ecology (Siberian Division of Russian Academy of Sciences), where data on bird numbers are collected from key areas and used for extrapolation of passerine distribution across central Siberia (Ravkin 1984).

Monitoring bird populations is also an important research priority. Monitoring of selected species has been performed within Strict Nature Reserves for a long time, as well as by Regional Game Management Offices (for game birds) and by the Ministry (State Committee) on Environmental Conservation (for rare birds). Common birds and potentially rare species are not covered by regular monitoring. The first steps in development of a bird-monitoring network should be selection of typical key areas within all natural zones and large ecosystems, appointment of ornithologists to carry out regular surveys every three to five years at each site, and use of a unified methodology. Dozens of professionals and hundreds of experienced bird-watchers are needed to make this survey system efficient. Building up a large network of bird-watching through the whole country is an important goal for RBCU and ornithological and conservation organizations.

In light of the extensive use of the continental shelf for oil excavation and other activities, the compilation of a seabird catalog (similar to that for Alaska) has become a particular priority. Through a joint project of the Institute for Biological Problems of the North (Russian Academy of Sciences) and the United States Fish and Wildlife Service, a catalog of seabirds of northeastern Russia is under preparation. Another one for the Barentz Sea is being prepared by the Institute of Nature Conservation. New seabird colonies have been recently described on Novaya Zemlya, Severnaya Zemlya, and Franz Josef Islands (Pokrovskaya and Tertitsky 1993; Gavrilo et al. 1994; Krasnov 1995). However, a seabird catalog for all aquatories in Russia remains a task for the future.

Monitoring of rare bird populations on both federal and regional levels continues to be an important priority for the preparation of valid *Red Data Books* for

each of the eighty-nine administrative regions of Russia, over twenty of which are already published. At the same time, species from the new federal list of 125 threatened and rare birds are not adequately known. Outlines for conservation of 5 especially rare species appear below:

The Slender-billed Curlew (*Numenius tenuirostris*) is the most mysterious bird of Russia. The species is obviously on the brink of extinction. From time to time, individuals and small groups have been recorded wintering in Morocco and along migratory routes in Bulgaria, Rumania, Hungary, Greece, Italy, Turkey, and the Ukraine. Based on these records, the world population is roughly estimated at 50–270 pairs (Gretton 1991; Tucker and Heath 1994; Heredia, Rose, and Painter 1996). However, despite many years of intensive searching, nesting sites of the species have been found neither in Russia nor in Kazakhstan. Ideas on potential breeding locales of the species have recently appeared, which may help to reveal nesting sites of this secretive bird (Danilenko, Boere, and Lebedeva 1996). Sophisticated techniques such as miniature satellite transmitters could also solve the problem. To find and save this species is the most urgent priority of Russian ornithologists and conservationists.

The Lesser White-fronted Goose (*Anser erythropus*) nests almost entirely in Russian tundra. Its breeding range and population have decreased for the last few decades. The species was included in the *Red Data Book* of Russia (Elyseev 1983). The breeding range has become extremely fragmented; assessments of population totals vary widely from 30,000 to 160,000 individuals (Krivenko 1991; Morozov 1995). To work out appropriate conservation measures, this species' range and population size have to be refined.

The Baikal Teal (*Anas formosa*) breeds only in eastern Siberia. Its population is estimated at 75,000 individuals (Krivenko 1991; Rose and Scott 1994) but has decreased for the last twenty years. Particular causes of that decline are still unknown.

The Pallid Harrier (*Circus macrourus*) is disappearing from Russia. Its traditional breeding range and population size have shrunk considerably over the last twenty years (Galushin 1994). At the same time, quite unexpected nesting sites have been recorded in the taiga of the Perm region, far beyond this species' known breeding range (Lapushkin et al. 1995). This phenomenon may hint at a redistribution of the species and warrants more precise study.

The Spotted Greenshank (*Tringa guttifer*) probably nests only within Russia. About forty pairs have been counted on the Sakhalin Island (Nechaev 1991). The world population is assessed at less than one thousand individuals (Rose and Scott 1994). Therefore, searching for still unknown nesting sites is important.

Research Needed to Assess Bird Habitats

Purposeful bird habitat surveys are carried out in two major directions. From the middle of the 1970s, under the Ramsar Convention on Wetlands of International Importance as Wildlife Habitats, the USSR government established twelve

internationally important wetlands, including three in Russia. In 1994, thirty-five such wetland habitats were designated within Russia. At present, wetland habitats of both international and national importance continue to be described and cataloged.

In 1987, the USSR Ornithological Society joined a Programme of International Bird Areas (IBAs) in Europe. In two years 75 IBAs have been revealed within European Russia (Grimmett and Jones 1989). At present, RBCU coordinates this work under the auspices of the BirdLife International IBA Project, supported within European Russia by BirdLife International and Vogelbescherming Nederland. At the end of 1996, about 150 IBAs within European Russia were described by RBCU. Within the next decade, RBCU plans to complete a catalog of IBAs and key ornithological areas of federal and regional importance. These areas, together with wetland habitats, need to be protected and monitored as Special Protection Areas.

Natural History and Education

Successful bird conservation depends on knowledge of each species' biology. Particular characteristics of ecology and behavior of various species and their adaptability to changing environment are vitally important for their survival and well-being (Soulé and Wilcox 1980; Soulé 1987). A single change of environment can lead to quite different responses even by related species, resulting either in a population increase or in a sudden population crash, as with the Baikal Teal and Ferruginous Duck (*Aythya nyroca*) in Russia. In this respect, conservation priorities in Russia are to determine specific biological, ecological, and behavioral characteristics for species of particular concern that may be under direct and indirect anthropogenic pressure. This approach seems promising regarding comparative study within model groups of birds: (1) game birds under hunting pressure, (2) former "harmful" raptors, (3) cranes, divers, woodpeckers, and the majority of small birds toward which human attitude is traditionally neutral.

The exceptionally important and mandatory component of any conservation strategy and crucial long-term priority is overall environmental education to advocate human awareness of birds.

Making Research Effective for Conservation

To be effective, conservation of birds has to be developed on the results of sound ornithological research and widely supported by a great number of experienced bird-watchers. Therefore, bird conservation studies are aimed in two general directions: professional and amateur. Ideally, both must be equally prioritized. However, in Russia the latter is in fact lagging in comparison to western countries.

Scientific research on birds has always been in progress in Russia. Current avian research and conservation priorities are based on the following convictions. First, Russia has the richest diversity of bird populations in need of research and protection. Russia also has hundreds of enthusiastic ornithologists and thousands of activists in conservation organizations doing bird research and conservation. Finally, Russia is open to further collaboration with foreign and international persons and organizations to the benefit of Russian birds, as both national and global wealth.

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