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July 28, 1975

State Dept. declassification & release instructions on file

Mr. John A. Busterud
Executive Office of the President
Council on Environmental Quality
722 Jackson Place N.W.
Washington, D. C. 20006

Dear Mr. Busterud:

Enclosed is my final report on my experience as a legal scholar under Area XI of the U.S.-U.S.S.R. Environmental Protection Agreement. Also attached is the research article I have completed in draft form that I hope to have published in a legal journal in the United States. I returned home somewhat ahead of schedule, on July 18, because there was no opportunity to conduct further research. Scheduled trips to the Latvian National Park and to Baikal were canceled by the Soviets; and Mr. Kolbasov was out of Moscow on his annual leave.

I believe that, despite some difficulties, I was able to carry out the work planned, as I hope the enclosed report demonstrates. I will, of course, hold myself available to give you any additional information you may desire about my experience or in connection with future Soviet-American cooperation under Area XI. I am grateful for the opportunity to undertake this assignment.

Sincerely yours,

Thomas J. Schoenbaum
Professor of Law

C.C. Mr. Leon H.S. Slawicki
TS:jr

Leon,
Thank you for all your help on this. I would appreciate your reaction to the draft article, and you might give a copy to the State Dept.

Tom

*02.11 - Environmental Protection
WG - XI*

REPORT ON THE WORK OF THE FIRST
LEGAL SCHOLAR TO GO TO THE
SOVIET UNION UNDER THE U.S.-U.S.S.R.
ENVIRONMENTAL AGREEMENT
MAY-JULY
1975

For: Council on Environmental Quality
Bureau of Educational and Cultural Affairs,
Department of State

By: Thomas J. Schoenbaum, Professor of Law, University of North Carolina
at Chapel Hill.

Date: July 28, 1975.

Since my visit to the Soviet Union was a "pioneer" effort, I feel it would be useful to set out both the benefits and the difficulties in order that subsequent legal scholars under the Environment Agreement may benefit from my experiences. In general, I regard the trip as successful. I was able to carry out my project, and the Russians cooperated very readily in some respects, but this cooperation was always achieved only after initial problems were overcome. This makes the process of carrying out legal research in the Soviet Union very difficult. Effective research is possible, however, but essential qualities are persistence, patience, a sense of humor and knowing the right moment to "put your foot down."

Two work products resulted from my research. First, I produced a draft article for publication in the United States entitled, "Ecological Reserves in the Soviet Union: A Useful Idea for American Environmental Law?" A copy of this is attached. Second, I wrote an essay for publication in the Soviet Union entitled, "Some Comparative Aspects of the Laws of the Soviet Union and the United States Relating to the Preservation of Natural Areas." This will be published in the Soviet journal, Sovetskoe gosudarstvo i pravo.

I was hosted by Dr. O. Kolbasov and the "Sector on Environmental Protection" of the Institute of State and Law. This group, of course, is primarily responsible for carrying out the cooperation under Area XI of the Environmental Agreement. One of the difficulties with my research and with the implementation of this part of the Agreement is that this is a newly formed Sector with relatively low esteem among Soviet administrators and scientists concerned with Environmental Protection. Moreover, the Sector consists of only six persons. Four of them are primarily concerned with international law aspects unrelated to the concerns of the U.S.-U.S.S.R. Agreement, i.e., the environmental protection work of the United Nations, environmental cooperation among the members of COMECON, the international law of the sea and environmental cooperation with the German Democratic Republic. One of the persons designated to specialize in Soviet law on environmental protection is primarily interested in international law. Dr. Kolbasov, the leader of the Sector, is currently more of an administrator than a scholar in the American sense and acts as the chief spokesman and propagandist both internally and abroad, spreading the official governmental view of Soviet environmental progress. Another difficulty is that two more Soviet bureaucracies have administrative responsibilities for the legal cooperation program, Hydromet and the Academy of Sciences. In many instances the members of the Sector did everything they could to be helpful, but problems arose on the part of the other organizations. Neither Hydromet nor the Academy of Sciences appear to have much interest in Area XI.

Upon my arrival in Moscow, I was placed in a small, dirty dormitory room (measuring 8 x 10 feet) in the Academy of Science Hotel and shown a desk in the reading room of the library of the Institute where I could work. This was the only part of the cooperation that came easily. Anything else was achieved only with great effort both by me and by my Soviet hosts. The reading of Soviet decrees and legislation and essays in legal journals is, of course, not very revealing and, in preparation for my work, I had already completed this phase to a large extent in the United States. I believe that the best methodology to employ in connection with legal research in the Soviet Union is to carry out interviews and case studies in the particular area of research. I had communicated this to the Soviets several months before leaving for the Soviet Union, and I assumed that approval of my plan of research also meant approval of this methodology. I found, however, that this was not the case, and the major difficulties I experienced were in carrying out this plan. I was successful in working out most of the problems, but not to the extent that I had hoped.

On my arrival I was told that I could not go to two of the areas listed in my plan of research, the proposed Russian Forest national park and the ecological reserve at Lake Baikal. Instead, two other areas were substituted, the Latvian National Park and Voronezh Reserve. I was also given a written, signed itinerary of specific dates of interviews and visitation of study areas. It turned out, however, that not one item of this itinerary was carried out according to the schedule, and I learned that no arrangements whatsoever had been made with the proper agencies

and authorities. Some promised activities were canceled and rescheduled several times before they actually took place. Other activities were canceled altogether, such as my substituted trip to the Latvian National Park, which was called off two hours before my plane was scheduled to depart. Even when I was successful in visiting an area to carry out a case-study, there were obstacles. At the Voronezh Reserve when I asked to see a copy of the particular regulations governing the use by the public of the reserve, the Director gave me the ridiculous answer that these rules were stamped for internal use only.

On the basis of my experience, I would recommend the following specific points for future scholars:

1. Arrange a detailed itinerary in advance of departure and try to get the Soviets to give specific confirmation of the schedule. General confirmation is not enough. One should also be aware that a program of research, once set, cannot be changed on the scholar's side; the Soviet side, on the other hand, will feel free to make unilateral deletions or changes unless confirmation is given in advance.
2. I found that my submission before departure of a list of specific research questions or issues was quite helpful.
3. In interviews and case studies, the tendency is to give general or pat answers. Cross examination is a necessary skill, and it is also useful to interview more than one person concerned with a particular problem.
4. Difficulties with the ruble per-diem given by the Soviets should be straightened out. I was told I would receive 10 rubles per day. I was instead given only 8.50 rubles a day by the Institute. At

the end of my stay I was asked to sign a statement that I had received 10 rubles a day. Through this process I discovered that the Institute was given 10 rubles a day by Hydromet but 1.50 rubles a day was kept by the Institute. The Institute did not want this fact known to Hydromet and wanted me to lie in writing to cover up what was happening to the money.

5. The orientation by the Department of State should include a more detailed discussion of the practical and professional difficulties of working in the Soviet Union. There are ways of working these out and of having a pleasant work experience.
6. When I first arrived I was told that the Institute would be responsible for arranging leisure time cultural activities in the area around Moscow. Most of these promises were broken with the explanation that the "roads were crowded" or an equally lame excuse.

In summary, although this report has dealt primarily with the difficulties of carrying out research in the Soviet Union, I should like to point out that I regard my experience as useful beyond my expectations. Despite problems, the Soviets are genuinely interested in aiding research and in opening within certain limits their administrative process to legal scholars; some of the problems resulted from organizational difficulties rather than a lack of a spirit of cooperation. I was in the end able to obtain access to high-ranking Soviet administrators and to carry out two case studies. The Soviets realize the problems, and I believe they will make some effort to correct them for succeeding scholars under the program. I hope that the attached article is evidence that Soviet-American cooperation in the area of environmental law can be of scholarly benefit.

ECOLOGICAL RESERVES IN THE SOVIET UNION:
A USEFUL IDEA FOR AMERICAN ENVIRONMENTAL LAW?

by

Thomas J. Schoenbaum*

Despite the fact that the Environmental Protection Agreement between the United States and the Soviet Union has been in effect for over three years, very little is known about the legal and administrative regulation of environmental quality in the Soviet Union. Yet the Soviet experience is important both in itself, because the Soviet Union comprises a significant portion of the biosphere, and as a subject of comparative study.

Some Soviet legal writers are fond of stating that environmental degradation is a by-product of the private greed of capitalist societies. They point to the USSR Constitution which declares all natural resources, lands, waters, minerals and forests, to be the property of the state, incapable of private ownership and exploitation. But as Professor Goldman has vividly pointed out, state ownership of resources has not assured the maintenance of environmental quality in the Soviet Union. On the contrary, in the Soviet Union, as in the United States, tremendous environmental problems have been caused by increased urbanization and industrialization and development of natural resources. Many of the rivers of the European part of the Soviet Union are heavily polluted; vast water diversion projects have altered the ecological character of the Lower Volga and adversely affected the water level of the Caspian Sea and the Aral Sea; pollution of Lake Baikal, the largest body of freshwater in the world, has been a source of controversy in the Soviet Union, and its ultimate fate is still undecided. Moreover, tremendous environmental

problems must be faced in connection with the development of Siberia, a virtual wilderness greater in area than the entire United States.

On the other hand, the Soviet political and social system has lessened the impact of some environmental problems which are as yet unsolved in the United States. For example, the problem of urban sprawl, characterized by the U.S. Council on Environmental Quality as a major factor in causing air pollution and waste of energy and land resources, is largely absent in the Soviet Union, where expansions of urban centers are more carefully planned. The extensive areas of green belts surrounding almost all Soviet cities would be the envy of American city planners. Moreover, efficient mass transportation systems and the fact that there are vastly fewer numbers of privately owned automobiles in the Soviet Union than in the United States mean that levels of air pollution are generally lower.

In the last several years, new laws dealing with most aspects of environmental protection have been passed in the Soviet Union. The centerpiece of recent legislative activity is Decree 898 of December 29, 1972, jointly issued by the Central Committee of the Communist Party and the Council of Ministers of the U.S.S.R. Soviet writers refer to it as a "comprehensive program of action." This decree freely admits past neglect of environmental protection and attempts to state general policies relating to all aspects of environmental quality, allocating jurisdictional responsibility for carrying out these policies to the appropriate union-and republic-level ministries, departments and organizations. Since this law attempts to integrate environmental considerations with economic planning (Gosplan was ordered to form a department of environmental protection), to set a national environmental policy and to confer jurisdiction for environmental protection on all important developmental agencies and groups in the Soviet Union, it may be considered as roughly analogous to the National Environmental Policy Act in the United States. The Soviet Union has also recently

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enacted legislation regarding the use of particular resources. A comprehensive
decree setting a national land use policy and elaborating principles of land use
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was issued in 1968. A new law regulating water use and controlling of water
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pollution was passed in 1970, and air pollution legislation dates from 1969. 18
In addition, pursuant to the order of the Council of Ministers of the U.S.S.R.,
all fifteen Soviet republics have issued conservation decrees dealing with the
preservation of certain lands and waters and conservation practices to be employed
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in the use of lands, waters and forests.

In order to come to an understanding of Soviet law in this area, it is
of course necessary to go beyond mere study of formal decrees and enactments.
However, Soviet law is of such a character so as to present several obstacles to
the American-trained lawyer. First, in the United States, environmental law is
extremely process oriented. Substantive norms are often quite general and even
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vague, but the law usually imposes a very definite, complex procedural frame-
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work, that is usually designed as a mechanism for checks and balances as well
as to be sure that all relevant groups have their say. Much environmental
litigation is over the question of the adequacy of the decisionmaking process.
In Soviet law, however, the process of decisionmaking is usually not regulated by
law. It is often difficult, even for Russian lawyers, to pinpoint the actual
decisionmakers. For example, Soviet law apparently requires that an environmental
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impact analysis must be made as a part of all economic and developmental planning.
Gosplan has no published regulations dealing with the particular requirements
of this analysis, however, and environmental impact data is not made public; thus
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it is impossible to determine if or how well this is carried out.

Second, the substantive norms of Soviet environmental law are vague and
generalized. A particular agency is simply given jurisdiction over a problem

and enjoined to solve it. Very few if any standards for administrative action are set out. This leads to an extreme amount of administrative discretion to interpret the law as the agency sees fit as well as to ad-hoc decisionmaking. For example, in the area of water pollution control, legislation merely prohibits discharges in excess of established norms, and there are no uniform effluent standards for industrial and municipal sewage. Instead, there is an attempt to tailor effluent standards to the particular discharger, on a case-by-case basis, formulating temperature requirements, degree of treatment, strength and type of effluent and time of discharge depending on the particular uses made of the body of water into which the discharge is made.

A third characteristic of Soviet environmental law is that its effectiveness depends on external factors, such as whether the monetary expenditure needed will be included in the five year economic plan formulated by Gosplan and whether the plant manager or those responsible for spending the money will in fact use it for its designated purpose. An agency in the Soviet Union cannot, therefore, compel enforcement of standards and norms; it must rely on the priorities as developed by Gosplan, which is basically oriented toward economic production and development not environmental protection. Even when pollution control equipment is provided for in economic plans, there are instances where overzealous plant managers will simply use the money for another purpose.

A fourth difference between American and Soviet environmental law is that in the Soviet system the general public and the courts have little or no participation in the setting of environmental policy. There is, of course, no judicial review of decisionmaking in the Soviet Union, and conservation organizations, such as the All-Russian Society For the Protection of Nature, which has a total membership of twenty million, exist mainly to publicize the importance of environmental protection and governmental actions to enhance it.

Policy struggles do occur, of course, but they are usually on the level of high ranking governmental officials; differences are quietly resolved.

In order to penetrate the real problems and accomplishments of Soviet environmental law, then, the administrative process must be opened to view through interviews and case studies. This article is an attempt to apply this methodology to a particular environmental problem, the designation and administration of natural areas withdrawn from economic exploitation in the Soviet Union.

Land use to protect the integrity of the biosphere is a growing national and international requirement. Nations must work together not only on pollution control measures but also on conservation of resources and the maintenance of a minimum level of quality of those resources. Land is increasingly recognized as perhaps the most important resource of all, since it provides the habitat and setting for many other resources. Although land use measures will continue to be a matter of national law for individual states, nations must come to terms with the problem of cooperation in creating a reserve of land resources. This article, after presenting an analysis of the Soviet system of land use control to preserve natural areas and proposing a new institution for consideration by the United States, will suggest a basis for future cooperation in this field between the United States and the Soviet Union.

I. MAJOR CATEGORIES OF LANDS WITHDRAWN FROM ECONOMIC EXPLOITATION IN THE SOVIET UNION

Under the 1968 Land Legislation, the lands of the Soviet Union are divided into six different primary use designations: agricultural lands, settlement lands, lands occupied by industry, transportation, health resorts and nature reserves, state forest lands, state water resources lands and state reserve lands. Within these general categories, lands substantially withdrawn from economic exploitation include parts of the state forest lands and settlement lands as well

as four major categories of nature reserve lands: zakaznik (nature reserve), pamiatnik pirody (natural monument), nationalni park (national park) and zapovednik (ecological reserve).³⁷ The latter category is the most interesting and significant from the American viewpoint.

There is as yet no unified legal or administrative framework for the governance of withdrawn lands in the U.S.S.R. Natural areas are authorized by a bewildering plethora of laws on the union and republic levels. They are administered by scores of various agencies on different political levels. One of the great needs of Soviet environmental law is a union-level law governing the administration of natural areas, and such legislation is being prepared at the present time.³⁸

A. State Forest Reserve

Over one-half of the area of the Soviet Union is designated as State Forest Land. A significant portion of these lands (170 million hectares) are categorized as "group one" forests that are withdrawn from commercial timber production.³⁹ These forests are located in the populous areas of European Russian, along highways and waterways as well as extensive tracts of northern forests bordering on the tundra.⁴⁰ Many of these areas are open for recreation, and cutting or disturbance of trees is allowed only for the removal of diseased and dead trees, fire protection and forest regeneration and improvement.⁴¹

There is, however, no mechanism in Soviet law to assure the permanence of group one forests. These areas are under the jurisdiction of the State Committee of Forest Management, which has the main task of assuring fulfillment of the plans for timber exploitation.⁴² Particular areas of forest lands are subject to being administratively reassigned to categories allowing exploitation. Moreover, Soviet writers have criticized the forest management practices that are applied to group one forests.⁴³ Furthermore, there are numerous instances of non-enforcement or only nominal enforcement of violations of forest-cutting restrictions.⁴⁴

B. Green Belt Areas

Soviet administrators are justly proud of the extensive green belt system that surrounds almost all large cities of the Soviet Union. Urban development is in general, kept within city limits. Land outside city limits, to a radius of up to fifty kilometers in the case of the largest city, Moscow, is designated as the suburban and green belt zone. This land is used for transportation corridors and recreational facilities as well as for small, independent satellite towns. Each district of the urban area is given responsibility and funding to set up a recreational area within this zone and permission can be given for the construction of private "dachas." The forested area that exists within these zones is managed according to group one specifications that prohibit timber cutting except for maintenance purposes. Much of this forested area cannot be entered except along certain proscribed paths. Growth of the urban area into such zones can occur only through the process of annexing parts of these zones into the city itself and thus will occur only as required by the growth of population.

C. "Zakazniks" (Nature Reserves) and Natural Monuments

Zakazniks and natural monuments are categories of preserve land that are given protected status under Article 40 of the 1968 Land Legislation Act. There is no clear legal distinction between these two forms. Authority for the creation of such areas is derived from laws on nature conservation in effect in each of the fifteen separate Soviet Republics. Impetus for the creation of such areas usually comes from the local level with individual oblasts, krays or autonomous areas. They are often created by decrees of executive committees of such areas with the approval of the Council of Ministers on the republic level. Responsibility of maintaining the areas is up to the local

executive committees but is often delegated to local organizations such as
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collective and state farms, cities or scientific organizations. Each individ-
ual area has its own rules of management, but in general economic activity
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that would impair the natural condition of the monument is prohibited. Many
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zakazniki are administered as hunting reserves, however.

Some natural monuments and zakazniki are established for the permanent
preservation of an area, while many are given protection for a shorter period,
usually ten years, to allow the restoration of a particular stock of birds or
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animals. The numbers of zakazniki and natural monuments, then, fluctuate wide-
ly, but this form offers protection to large territories of the Soviet Union.
The Lithuanian Soviet Republic, for instance, contains 91 zakazniki totaling
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over 320,000 acres as well as over 600 natural monuments. These areas are
usually classified according to the primary object of protection, as botanical,
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geological, lake and zoological zakazniki.

D. National Parks

The creation of national or nature parks is in its infancy in the Soviet
Union. There is as yet no modern legislation on the union level, although it
is contemplated that this will be included in the proposed legislation regu-
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lating natural areas in the Soviet Union. In the 1970's, however, under the
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authority of a 1921 decree, three national parks have been created in the Baltic
republics. Several more are planned including a controversial national park
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at Lake Baikal.

The influence of American practices are readily apparent in the emerging
Soviet national park system. The basic reason for creation of national parks
is an increase in mass tourism, leisure time and personal mobility. National
Parks are intended to combine human recreational needs with nature protection.
As in the United States, Soviet national parks are divided into differing
use zones, hunting and fishing are allowed in certain areas; there are

hotels, restaurants and tourist facilities and auto traffic is allowed
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along proscribed roadways. Lands around the parks are restricted as to
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use to provide a buffer zone for the protection of the park. Under the auspices
of the US-USSR Environmental Protection Agreement, Soviet authorities are
presently studying American experience with the administration of the national
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park system in order to gain ideas for implementation in the U.S.S.R.

D. Ecological Reserves (Zapovedniki)

Zapovedniki or ecological reserves are the most important type of Soviet
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protected areas under section 40 of the 1968 Land Legislation Act. This insti-
tution has no real counterpart in American law. Soviet ecological reserves are,
in principle, areas completely withdrawn from economic exploitation and ded-
icated to scientific research on the functioning of ecological systems. A
permanent scientific staff is assigned the task of collecting data on geologi-
cal, hydrological and other physical processes as well as monitoring flora and
wildlife resources as they exist in their natural state. Such reserves have
or are being established in all the differing biomes and ecological zones of the
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Soviet Union in order to preserve "standards of nature" for various ecological
zones. These function as ecological baseline areas against which the influence
of human activity in unprotected areas of the same original ecological character
can be compared in order to establish and define the impact of human activity
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on the environment. At the same time the ecological reserves constitute "pools"
of genetic material to ensure its survival for future generations and to allow
reintroduction of species of plants and animals into their original ecological
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habitat outside the area of the reserves. Another principal function of these
areas is to allow the preservation of rare and endangered species of plants and
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wildlife.

Tourism is a subsidiary purpose and is generally allowed only for pre-
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arranged excursions and along certain prescribed routes. In most ecological
reserves, mass tourism is not permitted, and a reason for the movement to
create national parks in the Soviet Union is to create a dual system of natural
areas, one that would accomodate recreational activities and another system
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which would be kept as free as possible from the impact of man's activities.

Soviet ecological reserves are created and regulated under legislation
on the union-republic level. Only very minor differences exist between the
laws of the various union-republics, however, since the current republic-level
legislation was passed pursuant to a 1961 order of the Council of Ministers
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of the U.S.S.R. Impetus for the creation of a reserve usually comes from
influential scientific groups such as the Academy of Sciences on the union or
union republic levels, very little role is played by the public or conservation
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organizations. Formal application is made to the Council of Ministers at the
union-republic level who have the legal authority to decree the establishment
of an ecological reserve, but in fact, approval must be obtained from both
Gosplan, which is in charge of economic planning on the union level, as well
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as from the Ministry of Agriculture of the U.S.S.R.

Once established, Soviet ecological reserves are under the jurisdiction of
many different governmental agencies. In some republics, such as the Russian
Socialist Federated Socialist Republic and Georgia, they are under the Council
of Ministers; in others such as Latvia, Estonia and Kazakh S.S.R., they are
within the Committee on Forestry; in still other republics (Azerbaijan),
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they are under a Committee for Nature Protection. In addition, there are four-
teen union-level ecological reserves run by the Ministry of Agriculture of the
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U.S.S.R., and many in Siberia are under the Soviet Academy of Sciences.

Altogether about twenty different departments are responsible for administering the national system of ecological reserves in fifteen different republics. This has created a serious problem of coordination of the research efforts and methodologies. In order to combat this, the Central Laboratory on Nature Conservation and the U.S.S.R. Ministry of Agriculture exercise oversight functions.

The present number of ecological reserves in the Soviet Union total 110 covering about 7.5 million hectares or 0.3 percent of the area of the country. In the last five years thirteen new reserves protecting 500,000 hectares have been created, and about forty additional reserves are planned. Soviet administrators distinguish three separate types of ecological reserves. First, there are about forty reserves that are wilderness tracts never significantly altered by man. Here the emphasis is on ecological baseline studies. Second, other reserves are islands of a restored natural environment surrounded by agricultural and urban lands. These are established to provide a stock of wildlife and genetic material to enrich the surrounding areas. Third, some reserves recreate through artificial means a portion of a preexisting material environment in areas that have been radically altered by human activity such as dam construction. The purpose of these areas is to provide a place of refuge for the preexisting natural ecological systems.

Although some ecological reserves have their own individual regulations, general rules apply to all such areas. Hunting, fishing economic and commercial activity is forbidden. Tourism, when permitted, is limited to specified zones. In the other hand, fire prevention methods and control of plant diseases through the limited application of pesticides is permitted. Tree cutting for forest regeneration and for maintenance is allowed in certain zones of forested ecological reserves. The taking of animals, birds and plants is permitted to regulate overpopulation of stock and for scientific purposes; moreover, many areas have stringently controlled predators, especially wolves.

1. The Administration of a Wilderness

Zapovednik - The Kavkaz Reserve

The Kavkaz Zapovednik is one of the best administered reserves of the Soviet Union. Within its boundaries are 266,000 hectares of virgin wilderness and it is surrounded by a buffer zone of about 50,000 hectares; it is thus
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a good example of a type one, wilderness reserve.

The major area of the Kavkaz reserve sprawls across the northern Caucasus mountain region near the Black Sea resort cities of Sochi, Gagra and Pitsunda. Encompassing a varied area of river valleys and glacier covered mountain peaks, it preserves the diverse fauna and flora of a mountain area that serves as the transition between the sub-tropical climate of the Black Sea coast and the continental area to the north.

The reserve is under the direct administration of the Department of Nature Protection, Reserves and Hunting of the Ministry of Agriculture of the U.S.S.R., although the legal authority for the establishment and administration is the
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republic-level law on zapovedniki of the Russian Federation. Despite the fact that it is thus nominally under the administration of a republic-level agency, in practice both long and short term scientific research plans are prepared according to guidelines set at the union-level; and the plans themselves must
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be approved by the union-level agency. This direct coordination and the fact that the reserve itself is a union-level state agency appears to be a major contributing factor to the relatively high quality of its administration.

A director and a scientific council are in charge of the over-all administration of the reserve. The work of the reserve is divided among six separate divisions: (1) a Bookkeeping Office to keep the accounts, (2) an Office of Buffer Zones to supervise hunting and other activities permitted in the buffer areas established to protect the reserve from human activity, (3) a Forest Protection section whose seventy rangers enforce reserve regulations,

(4) an Internal Economics Office which repairs reserve facilities,
(5) an Office of Experimental Economic activity that sells souvenirs and
operates tourist facilities at a profit and (6) a Scientific Office consisting
of twenty scientists of different fields who conduct and supervise the scienti-
fic research work of the reserve. All the divisions except the Office of
Experimental Economic Activity receive annual operating funds from the state. 89

The work of the scientific staff of the preserve consists of extensive
field work, laboratory work and reporting results in the form of scientific
papers. Monitoring stations have been established throughout the reserve,
and much of the scientific work is to inventory, classify and monitor the flora
and fauna of the reserve as well as the ecological interrelationships of
different species. The physical properties of the reserve such as the hydro-
logy, meteorology, air quality and soil properties are extensively monitored
also. The optimum population level of certain higher animals is scientifically
determined, and the numbers of some higher animals such as wolves and hoofed
animals are kept within the population limits determined. The reserve is a
refuge and a center for research on several endangered species such as the
European Bison and its function as a gene pool of many rare and relict species
is very important. Scientific study is also made of the impact of man on
different ecosystems as well as on the restoration and increase of the biologi-
cal productivity of natural complexes. Some of the scientific work seems also
to have direct economic application, such as studies of the optimum conditions
for the growing of certain types of trees. 93

The reserve also has a very important tourist and educational function
and, because of its location near the Black Sea resort cities, it is one of
the most visited Soviet ecological reserves, accomodating 500,000 visitors
yearly. Tourists and visitors are carefully confined to specific areas,

however. About 80 percent of the visitors come to a non contiguous 300 hectare portion of the reserve situated close to the Black Sea coast. Excursions are encouraged to the Khosta Grove, a stand of unique relict caucasus mountain vegetation including oak, beech, boxwood and yew trees that are several hundred years old. Here there is a visitor center, zoo, nature trails, the reserve headquarters and scientific laboratories. A second road has been built into the reserve to the top of Mount Akhun, the highest point along the Black Sea coast where commercial facilities for visitors have been built.

In the major portion of the reserve, which lies about 50 miles inland, two extensive unpaved roads have been designated as open to hikers; one about 125 miles in length, that bisects the reserve from north-east to south-west; the other covers about 40 miles in the northern section of the reserve. Visitors here, as in the other section of the reserve, are forbidden to hunt, fish or disturb the wildlife or vegetation. In 1972, the Ministry of Transportation of the Russian Federation proposed to build a road through the preserve along the longer of the two hiking roads in order to connect two cities. This attempt was blocked through the efforts of the Academy of Sciences and the All Russian Society for the Protection of Nature, but it was decided to put the road through the northern section of the reserve following the route of the second open hiking road. An increase in commercial facilities for visitors is expected to result from this decision.

This incident is indicative of what appears to be the major problem of the Soviet reserve system - their relatively weak legal status. Although the scientific plans are formulated for five year periods and reviewed very year, there is no written or legally binding comprehensive plan for use of the reserve and no regulatory norms other than the relatively vague rules contained

in the general law on reserves of the Russian Federation. This creates the opportunity for ad-hoc administrative actions by the strong development-oriented agencies affecting the resources of the reserve. It would seem that the adoption of a legally binding plan for the overall operation and administration of the reserve would at least present a legal barrier to be overcome by the governmental departments that would take actions affecting the reserve.

2. The Administration of a Restored-Environment Reserve -

Voronezh Zapovednik

The Voronezh Ecological Reserve is situated in the center of the European part of the Soviet Union about 400 miles south of Moscow. It preserves a 31,000 hectare island of the original fauna and flora of this region which is now completely devoted to agriculture, industrial and commercial activity. Several extremely rich forest ecosystems are represented including some 133 species of trees and shrubs, 900 species of plants, 187 types of birds and 54 species of mammals including elk, deer, moose, wild pig and beaver. ⁹⁸

In contrast to the Kavkaz Zapovednik, Voronezh is too small to serve as a standard of nature, a virgin wilderness area relatively free from outside influences. Instead, it is designed to serve as a refuge and center of population of animals and plants that would otherwise disappear totally because of the influence of man. It is a reservoir of natural systems from which wildlife can spread out to also populate existing suitable habitat in the surrounding area. In some instances, especially as to beaver and deer, the work of the reserve is to reintroduce wildlife to former parts of their range where they have been eliminated. Populations of many animals are heavily managed, and wolves have been completely exterminated because of the proximity of the reserve to settled areas. ⁹⁹

The scientific research of the reserve centers on beaver propagation. A carefully managed population of about 300 beaver exist in the natural state, and,

in addition, there is an experimental beaver farm where the animals are
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raised in captivity for introduction into other areas. In the future, it is
contemplated that the Voronezh population will serve as the center from which
other farms will be established for the extensive commercial raising of beaver.
Other divisions of the reserve conduct research on the relationship between
forest soils and forest productivity, mammal diseases, the biological control
of insect pests and techniques for the temporary immobilization of animals
so they can be tagged or studied for short periods. A staff of fourteen
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scientists is permanently assigned to the reserve.

The natural systems of the Voronezh reserve, despite their richness, are
adversely affected by the fact that there is no buffer zone surrounding the
reserve. Although no pesticides have ever been used on the reserve, they are
extensively used on the surrounding agricultural areas. Water pollution
that has its source outside the reserve is a problem. About 30,000 tourists
are accommodated each year, and they are encouraged to visit a museum and nature
center, the beaver farm and three short trails along which group tours can be
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conducted; they are not allowed in other areas of the reserve.

The rules of the reserve are enforced by fifty forest rangers. Although
the use regulations are substantially identical to the norms contained in the
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Russian Federation law, special rules allow hay cutting in certain areas as
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well as other activities such as harvesting of wild fruits and berries.

II. A CRITIQUE OF SOVIET ADMINISTRATION OF ECOLOGICAL RESERVES

Other than the embryonic national park system, the network of ecological
reserves in the Soviet Union is the only nationally-organized system to protect
natural areas. It is an institution that in general has been successful,
not only in protecting varying samples of the rich ecosystems of the U.S.S.R
and many endangered and rare species, but also in generating most of the wild-
life and ecological research being done in that country. Soviet authorities

have wisely resisted the temptation to open them to mass tourism and are instead creating a parallel system of national parks to fulfill this need.

At the same time it is well recognized by Soviet scholars and administrators that reforms are needed to perfect the system of zapovedniki. A chief problem is the multiplicity of different bureaucracies in charge of administration of the system. Direct control of the reserves on the republic level is vested in agencies such as forestry committees, whose main task is the economic exploitation of resources pursuant to the centralized economic plans developed at the union and republic levels. Coordination at the union level is exercised by the Central Laboratory on Nature Conservation and the Department of State Nature Reserves that are relatively weak subdivisions of the powerful union-level Ministry of Agriculture whose main job, of course, is fulfillment of agricultural production quotas. This has resulted in two major problems; preservation and research is often sacrificed to timber and agricultural production, hunting and fishing interests. There is also great pressure for research to have direct application to increased timber production or exploitation of resources. In addition, research is often incoordinated and Soviet writers complain of non-standardized and conflicting methodologies, classification systems and nomenclature.

Difficulties have also been experienced in the operation of new zapovedniki as well as in assuring their permanent status. The process of creating new reserves is unregulated by law, and the key authorization is needed from two union-level agencies concerned almost completely with economic production, Gosplan and the Ministry of Agriculture. Thus the realization of proposals to protect large additional tracts representative of all the ecosystems of the U.S.S.R. has been an extremely slow process. In addition, under the present system there seems to be no real impediment to simple administrative abolition

of ecological reserves or radical changes in their boundaries. In both 1951 and 1961, large numbers of reserves were simply abolished. ¹¹¹ [There is no legal requirement for the permanent maintenance of ecological reserves, and the lack of a ministry for environmental protection in the Soviet Union means that there is no powerful administrative arm that can resist the economic planners designs on the resources of particular areas.]

Another problem grows out of the fact that the legal norms and rules governing zapovedniki are very vague and often difficult to enforce. There is no union-level legislation and the republic level laws merely restrict certain activities such as tree cutting, hunting, fishing and economic activity but allow the administrators of the individual reserve or the direct supervisory state committee the freedom to make exceptions or qualifications from ¹¹² the general norms and standards. This leads to wide variations between individual reserves that are subject to the same legal standards. For example, while most reserves do not provide tourist facilities, some accomodate hundreds ¹¹³ of thousands of tourists per year and operate as "de facto" national parks. ¹¹⁴ Others allow economic and agricultural activities within their boundaries. Moreover, the [programs to eliminate wolves and other predators in Soviet Reserves are inconsistent with the legal requirement that the natural ecosystems be undisturbed by man.] Reserves are also insufficiently protected from outside influences that may infringe on the protected environment. The law provides for the maintenance of buffer zones around reserves but does not define ¹¹⁵ either their extent or the permissible activity within such buffer zones. The "Principles of Water Legislation of the U.S.S.R." does, however, provide protection for the water of preserves against withdrawal, diversion and discharge ¹¹⁶ of wastes. In addition, difficulties of enforcement of the standards and rules of reserves have been encountered because present law merely subjects the violator to sanctions under the general laws against unauthorized hunting,

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fishing and felling of trees. In the case of violation of a standard particular to a reserve that is not applicable in territories outside reserves,

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there is no enforcement mechanism.

Efforts are underway to correct some of these shortcomings, however. A new law is being prepared on the union-level that would provide a comprehensive regulatory structure and legal basis for all types of Soviet natural areas. The final shape of this legislation is unclear, since its passage is envisioned

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for 1976, but several areas of reform are being discussed. First, a new agency would be created on the union-level that would act as a supervisory authority for Soviet natural areas and especially for ecological reserves. Soviet administrators consider it essential that this agency be independent of and

superior to the ministries concerned with economic exploitation of particular resources. The new agency would have wide powers to coordinate the wildlife

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research efforts of ecological reserves, thus unifying the present fragmented program in this area. A legal basis would be provided for the creation of new

preserves and for the addition of areas to represent all the ecological areas of the Soviet Union. Second, although day-to-day administration would remain

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in the republic level agencies, the union-level law would provide a legal

framework for the different categories of Soviet natural areas, eliminating the

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wide differences in administrative practice that now exist. Third, new regulations would specify the conditions for using the reserves for tourism and

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from economic activity. The law would also relate to the stabilization of

the territory of natural areas and conditions for the withdrawal of areas from

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the reserve system. Fourth, the enforcement of the regulations for the use of

reserves would be strengthened by providing a legal basis for administrative,

civil and criminal law sanctions for those who violate the rules of natural

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areas. Such reforms are certain to be opposed by Soviet economic planners, but, would contribute greatly to strengthening the system of nature reserves in the Soviet Union.

III. THE USEFULNESS OF THE CONCEPT OF ECOLOGICAL RESERVES IN
THE UNITED STATES AND FOR FURTHER U.S. - SOVIET COOPERATION
IN THE FIELD OF ENVIRONMENTAL PROTECTION

Until very recently, the importance of the direct protection of wildlife and wildlife habitat was underestimated in the United States. Environmental law has concentrated on pollution control and the conservation of physical resources. Wildlife protection was an important by-product of this concern, but direct effort for wildlife and ecosystem management was concerned with game management and the protection of higher species of direct usefulness to

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man. The effort to preserve non-game species by a few organizations like the National Audubon Society was thought to be a minor aim to protect birds and animals for aesthetic reasons. Publicity and concern for endangered species has largely been stock-specific with little regard for the ecosystem in which they function. Little concern has been given to the value of preserving endangered ecosystems.

This situation is slowly changing. The economic importance of consumptive uses of wildlife has continued to grow, but as even larger increase has occurred in the value of non-consumptive uses as Americans increasingly utilize wild-
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life resources for nature study, photography and wildlife viewing. Even more importantly, increasing recognition is being given to the fact that the preservation of diverse ecosystems and a reservoir of biological species is necessary to man's survival. The Council on Environmental Quality has called attention to the fact that man directly depends on thousands of species of plants and animals and many of these are dependent on the ecological roles played
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by other forms of life. Man may in the future have to draw on stocks of

genetic material of the diverse ecosystems of the world to satisfy his needs. The noted biologist, Dr. Rene Dubos, has voiced his concern that the oversimplification of ecosystems inherent in industrialization and intensive agricultural activity may cause a chain reaction leading to widespread failures of the ecosystems of the planet. Concern for endangered species has evolved from concentration on a few higher species to studies that now show that one-tenth of certain lower animal species as well as one-tenth of North American plant species are presently endangered.

Recent federal legislation has displayed an awareness of this new basis for wildlife management. The Marine Mammal Protection Act of 1972, establishes protection for marine mammals in order that they may continue to fulfill an important niche in the marine ecosystem. The Endangered Species Act of 1973, provides mechanisms for the protection of endangered and threatened species of plants and lower animal life as well as higher species of wildlife. It also emphasizes the protection of habitat of such species.

Still more must be done, however. The federal government has never undertaken to systematically preserve large samples of the original North American ecosystem in their natural state. Moreover, there is no federal focus for wildlife research, monitoring and information about the functioning of ecosystems. The Council on Environmental Quality has stated that the fragmented and limited ecological research activities scattered among federal agencies, universities and professional societies renders this information largely unavailable to aid in the solution of particular environmental problems, to provide a basis for regulatory activity involving natural resources and to aid in determining national goals and priorities.

Formal creation by the federal government of a national system of ecological reserves for the same general purposes as the system now emerging

in the Soviet Union could contribute to the solution of these problems. Such a system together with an agency statutorily empowered to coordinate research would provide the needed federal focus to broad based ecological research, wildlife surveys and monitoring and would have immediate practical usefulness. Ecological baselines would be created in order to measure and compare environmental impact in non-protected areas. This system would also act as a reservoir of genetic diversity and would help to develop the management techniques and knowledge necessary to ensure the survival of rare and endangered species. Long range monitoring would provide an early warning system for potentially detrimental environmental disruption. A data base would be provided that would enable parameters to be created for the efficient economic use and management of our resources.

Such a system might be created with a minimum of expense by utilizing insofar as possible existing public lands and an existing governmental agency, the U.S. Fish and Wildlife Service. Many areas of the public lands such as certain wilderness areas, parts of national parks and national forests are presently managed under legal principles that would be consistent with the management of a system of ecological reserves. In addition there could be provision for state, university and even privately owned lands to be added to the system on a voluntary basis. In some cases, of course, extensive new areas would have to be acquired to ensure a systematic representation of all habitats or to protect endangered species. The establishment of a tallgrass prairie reserve, for example, would be needed to provide representation of this unique original American ecosystem.

The creation of such a system in the United States with similarities to the zapovedniki of the Soviet Union would, as a by-product, lead to greater international cooperation for protection of the biosphere. With the Soviet Union now instituting a system of national parks modeled in many respects on

the United States' example, there would be a reapproachment of the legal institutions of both countries that would accelerate the effort already begun within the framework of the U.S. - U.S.S.R. Environmental Protection Agreement to exchange information, standardize terminology and research methods. This cooperation might be regularized through the negotiation of a new treaty between the two countries on the model of the Convention on Nature Protection and Wild Life Preservation in the Western Hemisphere ¹³⁷ that would pledge the permanence of the reserve systems in both countries and would define the specific channels of international cooperation.

CONCLUSION

Despite its different economic and social system, the Soviet Union has evolved a legal and administrative framework for the preservation of natural areas that deserves the attention of American lawyers and administrators. The Soviet zapovednik (ecological reserve) has no exact counterpart in American law in that it combines a nationally organized system of scientific research with the preservation of representative ecosystems in their natural state. Although the Soviet institution is not without problems, it has generally been a success and is being reformed and expanded. The adoption of an analogous national system of ecological reserves by the United States would help to provide a needed federal focus for wildlife and ecological research and would have the additional advantage of furthering the international effort to conserve land resources and the integrity of the ecosystems of the biosphere.

Citations

*Professor of Law, University of North Carolina. The author was the first legal scholar to work in the Soviet Union in connection with the implementation of the provision for legal and administrative cooperation in Article 2 of the US-USSR Agreement on Cooperation in the Field of Environmental Protection. The writer gratefully acknowledges the cooperation of many Soviet lawyers and scientists, especially Oleg Kolbasov and Alexander Timoshenko of the Institute of State and Law, Moscow, Andre Barabanstchikov, Director of the Kavkaz State Reserve and Boris Kester, Director of the Voronezh State Reserve.

1. Agreement on Cooperation in the Field of Environmental Protection with the Union of Soviet Socialist Republics, May 23, 1972, [1972] 23 U.S.T. 845, T.I.A.S. No. 7345.
2. Only a few books and articles have been published in English and these consist chiefly of translations of Soviet authors. See Water Resources Law and Policy in the Soviet Union (I. Fox ed. 1971); G. Aksenyonok, Land Law, in Fundamentals of Soviet Law 286 (P. Romashkin ed. undated); Comment, The Soviet-U.S. Environmental Protection Agreement, 14 Nat. Res. J. 275 (1974). The pioneering work in this field has been done by non-legal scholars. See P. Pryde, Conservation in the Soviet Union (1972); M. Goldman, The Spoils of Progress: Environmental Pollution in the Soviet Union (1972); Powell, The Social Costs of Modernization: Ecological Problems

in the U.S.S.R., 1971 World Politics 618; Bush, Environmental Problems in the U.S.S.R., 21 Problems of Communism 21 (1972); M. Goldman, Environmental Disruption in the Soviet Union, in Proceedings of International Symposium: Environmental Disruption, 171 (Tsuru ed. Mar. 1970).

3. The total area of the Soviet Union is 2,240,220 hectares, about 2 1/2 times the size of the United States.
 4. U.S.S.R. Constitution of 1936, art 14.
 5. Goldman, supra note 2.
 6. Id. at 108-111.
 7. Id at 226-228.
 8. Id. at 178-203.
 9. A plan to establish a national park at Lake Baikal is still not implemented as a policy struggle continues in the Soviet Union over the use of the resources of the Baikal watershed. In 1975, however, a paper-making factory was temporarily closed by the Soviet government because its effluent exceeded allowable limits. Interview with O. Kolbasov, Head of Section of Environmental Law of the Institute of State and Law, Moscow on June 9, 1975.
 10. Fifth Annual Report of the Council on Environmental Quality 9-15 (1974).
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See Real Estate Research Corporation, *The Costs of Sprawl: Environmental and Economic Costs of Alternative Residential Development Patterns at the Urban Fringe*, prepared for the Council on Environmental Quality; the Office of Policy Development and Research, Department of Housing and Urban Development; and the Office of Planning and Management, Environmental Protection Agency (1974).

11. See text accompanying notes 45-50 *infra*.
12. This situation may change, however, as there is increased emphasis on the production and use of private automobiles in the Soviet Union. Moreover, there are no emission controls on Soviet autos and trucks comparable to the standards contained in Title II of the Federal Clean Air Act, 42 U.S.C. §§ 1857f-1 to 1857f-12 (1970).
13. *Postanovleniy ob usileniy prirody i ulychsheniy ispol'zovaniya prirodnykh resursov* (Decree on the Reenforcement of Nature and the Better Use of Natural Resources), *Sobraniye Postanovleniy S.S.S.R.* (Collection of Decrees of the U.S.S.R.), No. 2, p. 19 (1973) [hereinafter cited as Decree 898].
14. O. Kolbasov, *Priroda pod ochranoy zakona* (Nature Under the Protection of the Law) 20 (1975) [hereinafter cited as Kolbasov].
15. 42 U.S.C. § 4221 *et seq.* (1970).

16. Osnovy zemelnogo zakonodatel' stva S.S.S.R. i soyuznikh respublik (Fundamental Land Legislation of the U.S.S.R. and the Soviet Republics), December 13, 1968, Vedomosti Verkhovnogo Sovieta C.C.C.R. (Record of the Supreme Soviet of the U.S.S.R.) No. 51, p. 485 (1968). [hereinafter cited as Fundamental Land Legislation].
17. Osnovy vodnogo zakonodatel' stva S.S.S.R. i soyuznikh respublik (Fundamental Water Legislation of the U.S.S.R. and the Soviet Republics), December 10, 1970, Vedomosti Verkhovnogo Sovieta S.S.S.R. (Record of the Supreme Soviet of the U.S.S.R.) No. 50, p. 566 (1970). [hereinafter cited as Water Law Decree].
18. Osnovy zakonodatel' stva S.S.S.R. i soyuznikh respublik o zdravookhraneni (Fundamental Legislation of the U.S.S.R. and the Soviet Republics on the Protection of Health), December 19, 1969, Vedomosti Verkhovnogo Sovieta S.S.S.R. (Record of the Supreme Soviet of the U.S.S.R.) No. 52, p. 466 (1969).
19. The decrees of the fifteen republics are almost identical. For the text of the decree of the Russian Federation see Ob okhrane prirody v RSFSR (On the Protection of Nature in the Russian Federation), October 27, 1960, Vedomosti Verkhovnogo Sovieta RSFSR (Record of the Supreme Soviet of the Russian Federation) No. 40, p. 586 (1960) [hereinafter cited as Nature
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Conservation Law of the Russian Federation]

20. For an example see the substantive section of the National Environmental Policy Act, 42 U.S.C. §4321 (1970).
21. The NEPA impact statement process is, of course, the best example of this. See 42 U.S.C. § 4332 (1970).
22. All Soviet ministries and agencies are required to elaborate and submit to Gosplan long range and annual plans for environmental protection as an integral part of their draft plans for economic development. Decree 898, supra note 13, art.3; Kolbasov Interview supra note 9.
23. Kolbasov Interview, supra note 9.
24. Water Law Decree, supra note 17, art 38.
25. Kolbasov, supra note 14 at 67-68. This system bears resemblance to the American system of water pollution control before 1972, which was a notorious failure.
26. Gosplan regularly budgets the financing of pollution control equipment in the plans for the building of new factories and industrial complexes. Kolbasov Interview, supra note 9.
27. Id.
28. This is now possible to a certain extent with the cooperation of Soviet

authorities under the auspices of the U.S.-U.S.S.R. Environmental Protection Agreement.

29. See Tarlock, Land Use Choice: National Prerogative vs. International Policy, 13 Nat. Res. J. 344 (1973); The United Nations' Educational, Scientific and Cultural Organization (UNESCO), one of the few international organizations to take up this question, has proposed to define criteria, ways and means for the establishment of an adequate network of biosphere reserves. United Nations Environment Programme, Report of the United Nations Environment Programme on its second session, Nairobi, 11 to 22 March, 1974, UNEP/GC/26 (10 April 1974), Annex I, pp. 87-95.
30. Fundamental Land Legislation, supra note 16, art. 4.
31. In the Soviet Union, agricultural organizations and individuals who operate a farm without hired labor are granted the permanent use of such land. Fundamental Land Legislation, supra note 16, art. 22.
32. These include lands outside city limits that serve as a green and open space area and as a reserve for future expansion. Fundamental Land Legislation, supra note 16, art. 34.
33. This is a miscellaneous category of special purpose lands.

34. This category includes not only forested land but also lands not afforested but designated for forestry use. Fundamental Land Legislation, supra note 16, art. 43.
35. These lands are submerged lands as well as those used for water resource projects. Fundamental Land Legislation, supra note 16, art 44.
36. This is a catch-all category including all land not within the other five use designations. Fundamental Land Legislation, supra note 16, art 45.
37. No English term is adequate to translate the Russian word zapovednik. Its literal meaning is "forbidden area." However, ecological reserve seems to be the emerging English term and this will be used here.
38. Interview with V. Krinitsky, Head of Department of State Nature Reserves, U.S.S.R. Ministry of Agriculture, on June 27, 1975. See also text accompanying notes 119-125 infra.
39. Soviet forests are divided into three groups or categories. Group I forests are not to be used for commercial harvesting of timber. Group II forests are designated open to commercial cutting, but the annual cut in any given tract must not exceed the annual forest growth. Group III forests are open to intensive timber harvesting. Postanovleniy S.N.K. S.S.S.R. O poryadke

- otvoda lesosek v lesakh gosydarstvennogo fonda S.S.S.R. (Decree on the Order of allotment of wood cutting areas and the State Forest Fund of the U.S.S.R.) April 23, 1943, Sbornik zakonodatel'nykh aktov o zemle (Collection of Legislative Acts on Land), Pt. 8, p. 249, art. 1. [hereinafter cited as USSR Forest Law]. See Pryde, supra note 2 at 94-95; see also G. Aksenyonok, supra note 2 at 305-307.
40. Pryde, supra note 2 at 95.
 41. U.S.S.R. Forest Law, supra note 39, art. 1.
 42. For an account of Soviet practice in this regard see Pryde, supra note 2 at 95-98.
 43. N. Kuznetsov and M. L'vovich, Problems of Complex Use and Conservation of Water Resources, in Water Resources Law and Policy in the Soviet Union, 21, 36-37 (I. Fox ed. 1971).
 44. E. Zhemvrovsky, Pravovaya Okhrana lesov (Legal Protection of Forests), 1974 Sovetskoe Gosudarstva i pravo (Soviet State and Law), No. 3 pp. 78-80.
 45. Interview with V. Borisov, Secretary General, Central Research Laboratory on Nature Conservation, U.S.S.R. Ministry of Agriculture, Moscow on June 24, 1975; See Pryde, supra note 2 at 157 for a list of the radius of green-belt zones around selected Soviet cities.

46. Green-belt zones are given legal protection under the Fundamental Land Legislation, supra note 16, art 34. See also Decree 898, supra note 13, art. 13, which charges the Council of Ministers of each Union-republic with the task of completing long term and short range plans for the boundaries of green-belt zones for all Soviet cities. In response to Decree 898, the city of Sochi inventoried and expanded its green belt area as well as natural monuments within the city limits. T. Gontaro, Zelyenny naryad goroda (Green Apparel for Cities), Soviety Deputatov Trydyashchikhsya (Council of Deputies of the Workers), No. 9, p. 37-38 (Sept. 1973).
47. Borisov Interview, supra note 45. Many Russians are openly critical of the number of dachas that have been permitted in the green-belt zone around Soviet cities.
48. See text accompanying note 39 supra.
49. Republic-level legislation allows tree cutting in green-belt areas only with the permission of the local Soviet Executive Committee. Nature Conservation Law of the Russian Federation, supra note 19, arts. 7 and 10.
50. Borisov Interview, supra note 45.

51. Fundamental Land Legislation, supra note 16 art. 40.
52. Natural monuments are usually of a smaller area than zakazniks, sometimes consisting merely of individual trees or rock formations.
53. For example see Nature Conservation Law of the Russian Federation, supra note 19, arts. 8-9.
54. L. Shanoshnikov, Postoyannye zakazniki v sisteme okhrany prinody SSSR (Permanent Reserves in the System of Protection of Nature in the U.S.S.R.) in Primechatel' nye prirodnnye lanshafty SSSR i ikh okhrana (Outstanding Natural Landscapes of the U.S.S.R. and their Protection), 1, 7 (L. Shanoshnikov ed. 1967).
55. Id.
56. Borisov Interview, supra note 45.
57. Pryde, supra note 2 at 65.
58. Borisov, The Soviet System of Protected Natural Areas, 45 National Parks and Conservation Magazine 8, 10 (1971); The total number of zakazniks was 1000 comprising 10,000,000 hectares in 1960. See Pryde, supra note 2 at 65.
59. Shanoshnikov, supra note 54 at 10-11.
60. Krinitsky Interview, supra note 38.

61. Soviet authors trace the origin of the Soviet national park system to a decree issued during Lenin's time entitled "On the Preservation of Natural Monuments, Gardens and Parks." For the text of this decree in English, see Pryde, supra note 2 at 213.
62. Krinitsky Interview, supra note 38. For an account of the Lake Baikal controversy see Goldman, supra note 2 at 178-209; see also Pryde, supra note 2 at 63, 147-150.
63. L. Velousova, ob organizatsii prirodnikh parkov v sovietskom soyuze (On the Organization of National Parks in the Soviet Union) in Primechatelnye prorodnye landshafty SSSR i ikh okhrana (Outstanding Natural Landscapes in the U.S.S.R. and their Protection), 144, 144-146 (L. Shanoshnikov ed 1967).
64. Interview with A. Shalupov, Head of Committee on Hunting and Reserves, Russian Federation, on June 20, 1975.
65. Krinitsky Interview, supra note 38.
66. Fundamental Land Legislation, supra note 16, art 40.
67. I. Gerasimov and L. Abramov, Chelovek, obshchestvo i okryzhayshchaya srede (Man, Society and the Environment), 264 (1973).
68. Krinitsky Interview, supra note 38.
69. L. Okorokova, Pravovoy rezhim zapovednikov (The Legal Regime of Ecological

Reserves), 1974 *Sovietskoe gosudarstvo i pravo*, 66, 69-70 (July 1974).

70. Id at 66-67.

71. I Gerasimov and L. Abramov, *Chelovek, obshchestvo i okhryzhayshchaya srede* (Man, Society and its Environment), 271 (1973); some Soviet ecological reserves permit mass tourism, however, such as Tberda in the Caucasus Mountains. Borisov Interview, supra note 45.

72. Krinitsky Interview, supra note 38.

73. Elkin and Konstantinidi, *Pravovoe polozhenie gosudarstvennykh zapovednikov* (Legal Regulation of State Ecological Reserves), 1973 *Sotsialisticheskaya zakonst'* (Socialist Legislation), 8. The law on zapovedniki of the Russian Federation is, of course, the most important and is the model for the legislation in effect in the other union-republics. *Ob utverzhdenii polozheniya o gosudarstvennykh zapovednikakh RSFSR, nakhodyashchikhsya v vedenii glavnogo upravleniya okhotnich' ego khozyaystva i zapovednikov pri sovete ministrov RSFSR* (On the Establishment of Regulation of State Ecological Reserves of the Russian Federation under the Administration of the Central Bureau for Hunting and Ecological Reserves within the Council of Ministers of the Russian Federation), Decree No. 769 of the Council of Ministers of

the Russian Federation on June 5, 1962, Sbornik postanovleniy RSFSR

(Collection of Decrees of the RSFSR) No. 11, p. 61 (1962) [hereinafter cited as Russian Federation Law on Ecological Reserves].

74. Interview with V. Emelianova, Professor of Law, Moscow State University, June 17, 1975.
75. Id.
76. V. Emelianova, Sistema organov upravleniya zapovednim delom (System of Administrative Organa Dealing with Ecological Reserves), 20 Uchenie Zapiski, 159, 160 (1970)
77. Krinitsky Interview, supra note 38.
78. Id.
79. Id. For a listing of Soviet Ecological Reserves as of 1966, see Pryde, supra note 2 at 201-209.
80. Krinitsky Interview, supra note 38.
81. Russian Federation Law on Ecological Reserves, supra note 73, art. 10.
82. Id., art 12.
83. Id., art 14.
84. Id., art. 13.
85. Pryde, supra note 2 at 60.

86. See text accompanying supra note 80.
87. Russian Federation Law on Ecological Reserves, supra note 73.
88. Interview A. Barabanstchikov, Director of the Kavkaz Zapovednik on July 18, 1975.
89. Id.
90. The construction of new scientific laboratory facilities and offices are planned for 1976. Barabanstchikov Interview, supra note 88.
91. Barabanstchikov Interview, supra note 88. There seems to be a changing attitude in the Soviet Union toward predators and especially wolves. In 1971, Professor Pryde reported an effort to exterminate wolves in Soviet Preserves. Pryde, supra note 2 at 60. The Director of the Kavkaz Zapovednik reports, however, that Soviet authorities now recognize the necessity to protect wolves and other predators within reserves, but feel that it is necessary to scientifically manage their numbers. Barabanstchikov Interview, supra note 88.
92. Interview supra note 88. For an account of the efforts to protect the European Bison in the Kavkaz Zapovednik see Pryde, supra note 2 at 73-75.
93. Barabanstchikov Interview, supra note 88. This work has centered on the growing conditions for the yew and boxwood trees of the Kavkaz zapovednik

and efforts to propagate them outside the reserve. Id. For additional information concerning the scientific work of the Kavkaz Zapovednik see Pryde, supra note 2 at 56-57.

94. A new zoo and expanded tourist facilities are planned for the Khosta grove in 1976. Barabanstchikov Interview, supra note 88.
95. Id.
96. Id.
97. Id. Despite the existence of large buffer zones where only hunting and some commercial logging is permitted, some parts of the reserve appear to be adversely affected by industrial activity. The river that forms the boundary of the unique Khosta grove appears to be highly polluted by sedimentation that perhaps has its source in the operations of a quarry located on the opposite bank of the river. The noise emanating from the quarry operations can be heard in many parts of the Khosta grove. Observations by the author, July 9, 1975.
98. Interview B. Kester, Director, Voronezh Ecological Reserve, on July 14, 1975. Like the Kavkaz, Voronezh is a union-level zapovednik that publishes its own scientific journal.
99. Id.

100. The experimental beaver farm has a capacity of about 7100 beavers. There are presently about 150,000 beavers in the natural state in the Soviet Union; it is estimated that about one-half this number are descended from Voronezh beavers. Interview N. Lavrova, Head of Beaver Laboratory, Voronezh Reserve, on July 14, 1975.

101. Kester Interview, supra note 98.

102. Id.

103. See text accompanying notes 81-85 supra.

104. Kester Interview, supra note 98.

105. Emelianova, supra note 76 at 162.

106. Id. at 162-163.

107. See Pryde, supra note 2 at 46-47.

108. I Gerasimov and L Abramov, *Chelovek, obshchestvo i okruzhayshchaya sreda* (Man, Society and the Environment), 272 (1973).

109. This fact is lamented by Soviet writers. See L. Okorokova, *Pravoboy rezhim gosudarstvennikh zapovednikov v SSSR* (The Legal Regime of State Ecological Reserves in the U.S.S.R.) 9 (1971).

110. See text accompanying note 75 supra.

111. See Pryde, supra note 2 at 51-52, 59; This was apparently done to permit

the economic exploitation of some areas. Okorokova, supra note 69 at 72.

This apparently could happen again. The law of the Latvian Union-Republic, for example, states that abolition or changes in status of ecological reserves is in the discretion of the Latvian Council of Ministers. Polozhenie No. 826 o gosudarstvennikh zapovednikakh (Decree on State Ecological Reserves) Dec. 29, 1961, Vedomosti Verkhovnogo Soveta i Pravitel'stva LSSR (Record of the Supreme Soviet of the Latvian SSR No. 6, art 30 (1962) [hereinafter cited as Latvian Law on Ecological Reserves].

112. For the general norms applicable to ecological reserves see text accompanying notes 81-85 supra.
113. Borisov, supra note 58 at 13.
114. Elkin and Konstantinidi, supra note 73 at 10.
115. Russians Federation Law On Ecological Reserves, supra note 73, art. 17.
116. Water Law Decree, supra note 17, art 30; See Kolbasov, supra note 14 at 68.
117. Russian Federation Law on Ecological Reserves, supra note 73, art. 24.
118. Emelianova, Otvetstvennoct' za naruzhenie rezhima zapovednikov (Responsibility for the violation of the Regime of Ecological Reserves) 24 Uchebye Vypusk 158, 158-159 (1971).
119. Sholupov Interview, supra note 64.

120. Id.
121. Krinitsky Interview, supra note 38.
122. Shalupov Interview, supra note 64.
123. L. Okorokova, Pravovoy Rezhim gosudarctvennikh zapovednikov v SSSR (Legal Regime for State Ecological Reserves), 11-12 (1971).
124. Id. at 9, 11-12.
125. Emelianova Interview, supra note 74.
126. Fifth Annual Report of the Council on Environmental Quality, 179 (1974).
127. Id. at 181, 324.
128. Id. at 325.
129. See Hill, Ecologists Fear Peril to Nature, The New York Times, June 8, 1975, p. 25 col. 1.
130. Fifth Annual Report of the Council on Environmental Quality, 325 (1974).
131. 16 U.S.C. § 1361 et seq. (Supp. 1972).
132. 16 U.S.C. § 1531 et seq. (Supp 1974).
133. 16 U.S.C. §1534 (Supp. 1974).
134. Fifth Annual Report of the Council on Environmental Quality, 330-33, (1974).
135. In July, 1974, the Chairman of the Council on Environmental Quality es-

Reserves. Id. at 204.

136. See Farney, Trying to Restore a Sea of Grass, The Wall Street Journal,

June 6, 1975, P. 15 col. 5.

137. Oct. 12, 1940, 56 Stat. 1354 (1942), T.S. No. 981 (effective April 30, 1942).