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UPDATED BIODIVERSITY ASSESSMENT FOR RUSSIA

A TASK ORDER UNDER THE RAISE IQC

December 2004

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Updated Biodiversity Assessment for Russia
A Task Order Under the RAISE IQC
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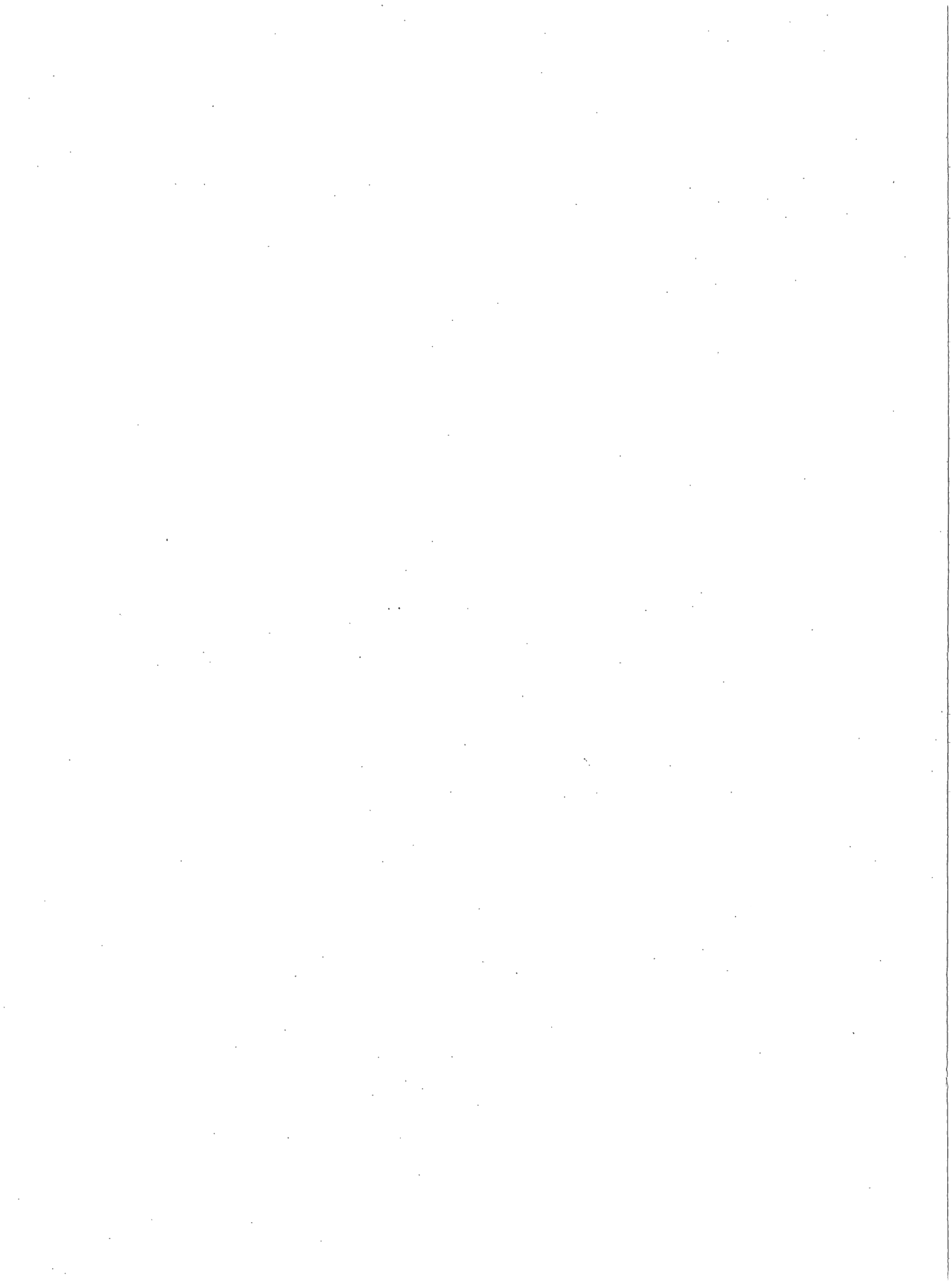
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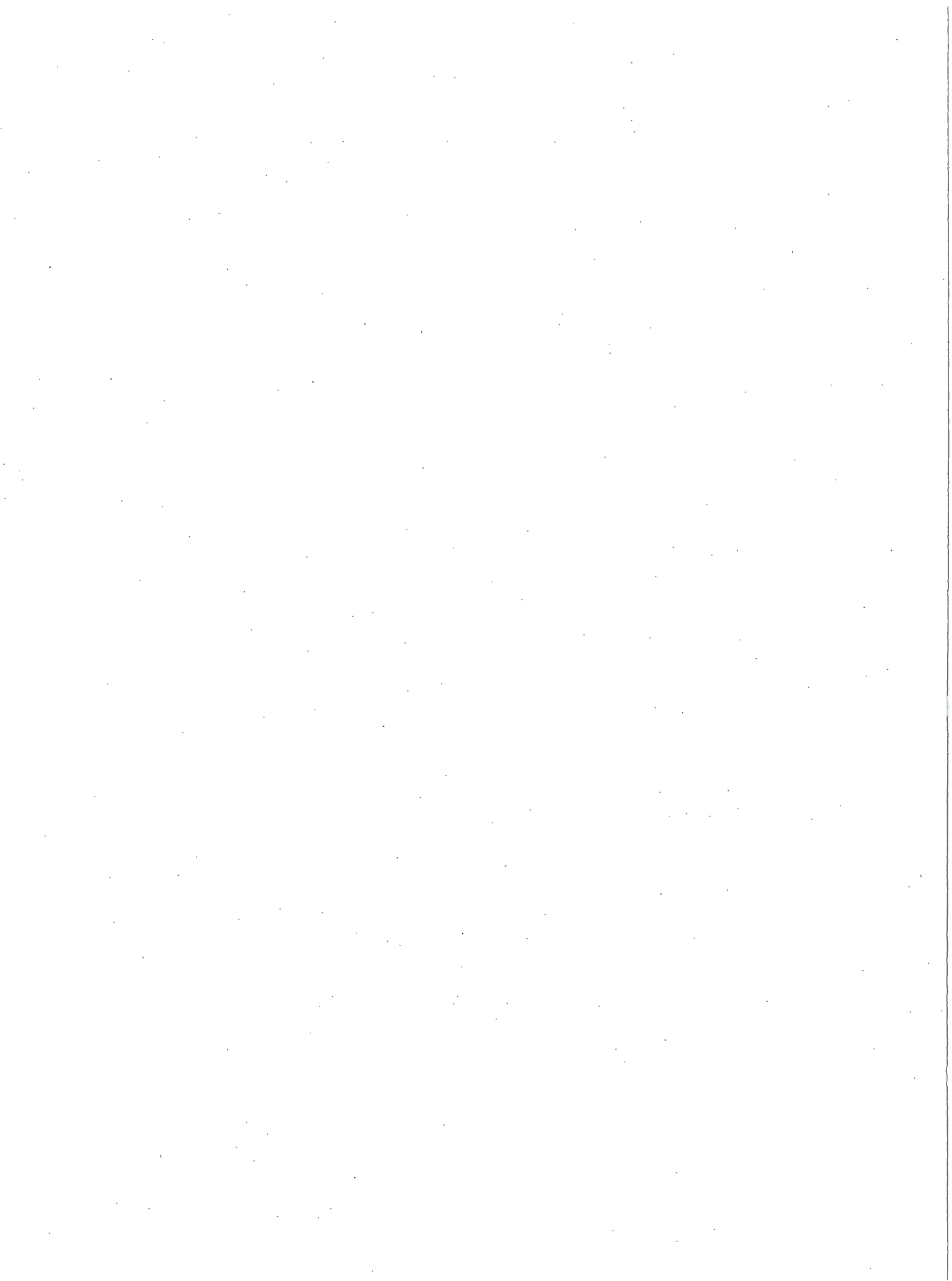
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- No. 5 "Marine Resources of the Russian Far East," A. Ozolinsh, V. Spiridonov, K. Zgurovsky, WWF Russian Far East, 2002.
- No. 6 "Illegal Logging — Problem Analysis and Proposed Solutions," WWF Russia, 2002.

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ACRONYMS

ABC	American Business Center
AAC	Allowable annual cut
ARC	America-Russian Centers
BRC	British Retailers Consortium
BROC	Bureau for Regional Outreach Campaigns
CDI	Center for Defense Information
CIFOR	Center for International Forestry Research
CIP	Civic Initiatives Project
CTO	Cognizant Technical Officer
DCA	Development Credit Authority
DFID	UK Department for International Development
EC	European Commission
FA	Forested areas
FAO	Food and Agricultural Organization of the United Nations
FF	Forest Fund
FFS	Federal Forest Service
FL	Forest land
FLEG	Forest Law, Enforcement and Governance
FOREST	Russia Forest Resources and Technologies project
FSA	Freedom Support Act
FSC	Forest Stewardship Council
GATT	General Agreement on Tariffs and Trade
GDP	Gross Domestic Product
GFW	Global Forest Watch
IFOAM	International Federation of Organic Agriculture Movements
IIASA	International Institute for Applied Systems Analysis
IQC	Indefinite Quantity Contract
ISC	Institute for Sustainable Communities
ISO	International Standards Organization
IUCN	The World Conservation Union

MEP	Ministry of Environmental Protection
MNR	Ministry of Natural Resources
NCA	Nature Conservation Area
NFL	Non-forest land
NGO	Nongovernmental organization
NTFP	Non-timber forest products
OHSAS	Occupational Health Safety Assessment Series
PEFC	Pan-European Forest Certification
RAISE	USAID Rural and Agricultural Incomes with a Sustainable Environment IQC
RFE	Russian Far East
ROLL	Replication of Lessons Learned project
RTA	Regional Trade Agreement
SCEP	State Commission for Environmental Protection
SETT	Strengthening Russian Economic Think Tanks
SEU	Socio-Ecological Union
SFI	Sustainable Forestry Initiative
SME	Small and medium enterprises
SO	Strategic Objective
TUSRIF	U.S.-Russia Investment Fund
UFA	Un-forested areas
UNESCO	United Nations Educational, Scientific and Cultural Organization
USAID	United States Agency for International Development
USDA	U.S. Department of Agriculture
USSR	Union of Soviet Socialist Republics
WCMC	World Conservation Monitoring Centre
WRI	World Resources Institute
WTO	World Trade Organization
WWF	World Wildlife Fund

Executive Summary

In accordance with Section 119(d) of the Foreign Assistance Act, USAID/Russia commissioned an update of the assessment conducted in 2002 of Russia's vast and globally important biodiversity and natural resources. This was done as part of the ongoing planning process for the Mission's strategic program for 2005–2010. USAID/Russia contracted Chemonics International through the Rural and Agricultural Incomes with a Sustainable Environment RAISE Indefinite Quantity Contract (IQC) to fulfill this requirement. A senior American and Russian team comprised of specialists in biodiversity, natural resources, and environmental planning was fielded in August 2004. The approved work plan included a two-week in-country mission focused on the Russian Far East.

There is a great need to conserve biodiversity in a country as large and diverse as Russia. At a landscape level, Russia holds 23 percent of the world's forest resources and has some of the largest tracts of intact native forests remaining in both Europe and Asia. Centers of high terrestrial biodiversity and speciation include the northern Caucasus, steppe and steppe forests of southern Europe and southern Siberia, and the mixed forests of southern Russia Far East. Other terrestrial ecosystems, though less rich in number of species, are important habitat for highly endangered fauna and large herds of ungulates. Russia has the world's longest coastline (60,000 kilometers), which cuts across ecosystems ranging from polar deserts to temperate Mediterranean forests and is habitat for many rare and endangered plant and animal species. The coasts of the Far East and Black Sea are distinguished by exceptional biodiversity, and the enormous wetlands associated with large river deltas (Volga, Amur, etc.) are critical for migrating waterfowl. Inland wetlands and other freshwater aquatic ecosystems are extensive, represented by two million lakes and 120,000 rivers totaling 2.3 million km, including the Amur River basin shared with China and Mongolia, the longest undammed river in the world.

Findings

The expansiveness of Russia can mask the fragility and real threats to its biological storehouse, economy, and the well-being of its people. The findings of the original assessment are perhaps even more valid today than in 2002, and are summarized as follows.

- There is a high correlation between areas of new economic development and areas of threatened biodiversity in the Caucasus, European Russia, and Siberia and Far East along the Mongolia and China frontiers.
- The Russian economy is highly dependent on extraction of natural resources, and is becoming increasingly so.
- International trade has important consequences, both positive and negative, on the conservation of biological resources.
- In general, government agencies are not meeting their basic natural resources and environmental management, monitoring, and enforcement responsibilities, and current trends are unfavorable for wise and sustainable use.

On a regional basis, the current team reports several additional findings that represent a major concern for biodiversity conservation and have significant implications for broad economic and civil society development as well as the ecological integrity of the eastern half of Russia. Three forces, as discussed below, are leading to far-reaching political, economic, and, potentially, geopolitical shifts in the Russian Far East and are having a profound impact on conservation:

1. ***Re-federalization of policies and authority.*** The Putin government follows an unabashed policy to re-federalize management authority and revenue distributions from both renewable and nonrenewable natural resources. Many of the 140 laws now being rewritten could have harmful consequences for forest, fishery, and wildlife resources that sustain most of the Russian Far East's populations. Simultaneous reductions in regional and local government revenues diminish interest in sustainable management. The cloud cast over these laws and implementing regulations has led to confused and conflicting stewardship mandates, administrative paralysis, and worsening management. Finally, various pressures applied by Moscow are silencing participation and advocacy by local communities, media, and nongovernmental organizations. The cumulative impact of recentralized management authority discourages local participation and seriously undermines sustainable stewardship, broad-based economic development, and regional security.
2. ***Trade in natural resources with China.*** Explosive trade and economic growth in China is a second factor having an impact on the Russian Far East. Following the devastating floods in the 1990s, China has successfully instituted a logging ban in the upper reaches of many of its key watersheds, including the Amur River basin shared with Russia. To make up this shortfall, exacerbated by China's rapidly expanding economy, suppliers have turned to the Russian Far East. Since the financial crisis of 1998, China has quickly overtaken both Japan and South Korea as the largest importer of Russian Far East timber. Sixty percent of China's log imports are now derived from the Russian Far East and more than 85 percent of all wood products exported from the Russian Far East leave in the form of raw logs. Many large forest concessions now use Chinese laborers and equipment further reducing the retention of economic benefits. This is occurring at the same time Russia is experiencing surging imports of finished forest products. Similar trends for non-timber forest products were observed, and inland fisheries of the Amur River Basin have crashed by more than 90 percent in the last 30 years due to pollution largely originating in China, over-fishing to supply the Chinese and other export markets, and spawning habitat degradation throughout the Amur Basin.

Most logging is concentrated in the most biologically diverse forests in Russia, habitat to critically endangered species including the Amur tiger, Far Eastern leopard, and Kaluga Sturgeon. Forest and fisheries management plans and administrative capacity are inadequate and the long-term impacts of logging-related wildfires, sedimentation of waterways, and poor regeneration are undermining productivity and investment. These environmental subsidies, combined with corruption and 'illegal' logging, result in under-priced exports to China. This cheap raw material flows through the value chain resulting in low-priced lumber, furniture, and other wood products largely for export. The anti-dumping case of wood products from China brought by the United States before the World Trade Organization (WTO) illustrates the far-reaching consequences of current forest trends in the Russian Far East.

3. **Demographic trends.** Demographic trends drive resource use in the Russian Far East. More than two-thirds the size of the United States, the Russian Far East has a population of only 7 million people, less than half of whom live on the border with China. Juxtaposed with this sparsely populated and porous border is the specter of more than 80 million Chinese. Moreover, Chinese agriculture expansion and increases in effluent discharges from Chinese industries and municipal sources directly threaten the health of the Amur River, the largest transboundary river system in the world, where introduced exotic species now account for more than 20 percent of the fish population. Forests, aquatic ecosystems, important fisheries, and drinking water supplies along the Amur are all vulnerable.

The team determined that the cumulative effect of debilitating policies, swelling demand for unprocessed products, and demographic pressure from Chinese neighbors is accelerating the losses of native Russian Far East forests and their globally important environmental, biological, and economic services. Rapid changes in forest cover and composition are the most significant threats to conservation. Yet changing the stewardship of Russia's forests, particularly in the Russian Far East, requires an approach that simultaneously spurs investment in improved management practices and value-added processing capacity, and compliance with international standards. The potential of this approach is demonstrated in European Russia where foreign direct investment and the pull of European markets are leading to fundamental, positive changes in the forest sector, including certification of more than 2 million ha of forest. Improving forest management in the face of more centralized decision-making also requires increasing ownership by local groups and communities through effective advocacy, wider public awareness, and enhancements in the rule of law.

Contribution to Conservation of the Current USAID Program

The assessment team found that many activities within the current USAID program have made an important contribution to biodiversity conservation. The two most important projects contributing to conservation are the Replication of Lessons Learned project (ROLL) and the Russia Forest Resources and Technologies project (FOREST), both scheduled to end in 2005. ROLL's guiding principles of partnership, replicable results, and participation, well-honed implementation strategy, well-defined priorities, and wide geographic coverage appear to be having significant impacts locally in natural resources management, raising public awareness, pollution prevention, and encouraging eco-friendly small enterprises. More regionally focused on the Russian Far East, the FOREST project is contributing to conservation through its four components: forest fire awareness, forest pest control, eco-enterprise promotion based on non-timber forest products, and utilization of biomass. More recently, FOREST has begun to engage the Ministry of Natural Resources and Ministry of Energy at the national level.

Opportunities for Integrating Conservation in the 2005–2010 Program

Although the USAID/Russia 2005–2010 program had not yet been fully determined at the time of the current biodiversity assessment update, there appeared to be general agreement that future funding was precarious and would be directed to three strategic sectors: democracy and governance to bolster civil society, and advocacy and awareness at the local level; delivery of health services to combat infectious diseases (TB and HIV/AIDS); and economic development to spur creation of small- and medium-sized enterprises. In addition, the 2005–2010 program

includes important project support and special programs such as the America-Russian Centers and American Business Center operating in the Russian Far East. The team was informed that the 2005–2010 program would have a regional focus, with the Russian Far East among the top priorities.

At the time the present assessment was conducted, the Mission indicated no future activities were planned to specifically address biodiversity or broader environmental management. The economic development pillar would no longer include a stand-alone environmental SO. Consequently, it appears likely that there will be a further decline in USAID's contribution to conservation in the next cycle. This is noteworthy given the importance of biological resources to the Russian economy and ominous institutional, policy, and resource-use trends with a direct bearing on employment, local rural communities, and international trade and regional stability, particularly in the Russian Far East.

The assessment team found that many activities contemplated in the future USAID program could address critical conservation needs, but that they must be more geographically convergent and more targeted on conservation issues. Development of small- and medium-sized enterprises in the Russian Far East will undoubtedly be based on direct consumption of natural resources such as forestry, fisheries, trophy hunting and fishing, and indirect consumption of natural resources like tourism, that aims to improve local management. Democracy and governance initiatives at the local level can offset centralist tendencies and corrupt practices by helping non-governmental organizations, rural communities, and municipal governments better understand their legal rights and responsibilities, participate in resource and land use decisions, and open avenues of recourse. Though now narrowly focused on infectious diseases, renewed consideration of environmental health problems could greatly improve the productivity, well-being, and longevity of Russian workers as well as reduce pollution of ecosystems.

USAID activities in other areas such as independent print media, U.S.-Russia Far East Partnerships, The US-Russia Investment Fund (TUSRIF), America-Russian Centers (ARC), the American Business Center (ABC), regional investment strategies, Partnerships Against Corruption, and the U.S. Department of Agriculture (USDA)-Forest Service cooperative agreement provide numerous opportunities to also contribute to natural resources conservation, if creatively fine-tuned. The team also noted the significant transboundary obstacles and opportunities that provide an historic opportunity for USAID's consideration.

Recommendations

The scope of work for the assessment encouraged the team to identify actions that could be taken to improve conservation of biodiversity within the scope of the Mission's current and future program and the context of the host country. The 2002 assessment proposed to USAID 14 recommendations for consideration in the context of the nine strategic objectives comprising the current USAID/Russia program. In light of the declining investment to the environmental SO (SO 1.6), the recommendations were deliberately presented in a format that would facilitate their integration across the Mission's program. Though these recommendations were not binding, the majority of the original recommendations remain valid and merit renewed consideration in the 2005–2010 program.

Additional recommendations were formulated in the context of the findings of the current updated assessment and the proposed USAID program for 2005–2010, most of which were presented to the Mission during the de-briefing and were favorably received. A few additional recommendations were subsequently formulated and several from the original assessment are again offered for USAID's consideration.

Democracy and Governance

- Work with independent television, press media, and nongovernmental organizations to develop new tools and strategies to raise public awareness of conservation issues.
- Disseminate information on the pending Forest Code and other natural resources-related legislation.
- Support advocacy groups like Eco-dal to assist local communities and indigenous groups exert their legal rights and responsibilities.
- Continue ROLL's current portfolio and build on the recent ROLL project round to further support biosphere reserves and protected areas.
- Assist municipalities to integrate natural resources into broader land use and zoning plans to better link services, development, and natural resource management, for example, municipal water supply and watershed management.

Economic Development

- Build on progress to date under FOREST; introduce fire, pest control, and other best management practices into a broader multiple-use, sustained-yield framework for forest management.
- Introduce market-based, trade-related international certification and standards in enterprise development, loan portfolios, and investments.
- Conduct information seminars and training of forest certification auditors.
- Research Global Development Alliance opportunities linking forest producers with end buyers.
- Organize fire management training for Russian Forest Service and industry through U.S. Forest Service and Pominov Center in Khabarovsk.
- Broaden the portfolio of think tanks to include applied research on environmental accounting and policy.
- Use Muskie Fellowships or other education programs to train professionals in natural resource economics, policy, and law.

Health

The assessment team's understanding is that environmental health activities currently fall under the portfolio of the environmental resources SO. The following recommendation is presented under the "health" rubric, given the probable exclusion of this SO in the 2005–2010 cycle and the current strategic plan framework as presented to the team by the Mission.

- Through ROLL or another mechanisms, disseminate information to workers on industrial safety and health issues for high-risk industries such as coal, power,

machinery construction, and metallurgy, sectors that also have significant impacts on aquatic and terrestrial biodiversity from the discharge of toxic solid and liquid wastes and gas emissions. Consider support for environment, health, and safety management systems (e.g., ISO 14001, OHSAS 18001) as tools for stimulating better practices through environmental competitiveness.

Cross-cutting Recommendations

- Apply environmental due diligence to screen for natural resource and biodiversity impacts and opportunities across USAID program as a way to enhance the environmental competitiveness of export-oriented enterprise development.
- Continue engagement by USAID in biodiversity conservation at the policy level through the Forest Law, Enforcement and Governance (FLEG), WTO, international treaties and other multi-lateral fora.

A New Program Addressing Regional Realities in the Russian Far East: A Transboundary Approach

Given the concentration of valuable biological and economic resources in the Russian Far East, the region's size and proximity to markets, underdevelopment of rural areas, and the importance to eco-regional security, USAID should strongly consider a transboundary initiative centered on the Amur River Basin. This could be similar in scope and goals as programs underway with USAID support in the Amazon and Central Africa. Starting points for the Amur could build on efforts by World Wide Fund for Nature, engagement through the FLEG process and WTO, and transboundary planning between China and Russia begun in 1995 with USAID support. Such an initiative would:

- Promote close collaboration on policy and planning based on an integrated basin management approach with a focus on sustainable economic growth, health, and biodiversity conservation.
- Link trade and investment to international safety, health and environmental standards.
- Build capacity of local and regional professional resource managers, both in the public and private sector.
- Strengthen civil society and the rule of law for more transparent disclosure of resource allocation decisions.
- Conserve natural resources at a landscape or biogeographic level that are regionally important for Russia and China, globally significant, and biologically unique.

SECTION I

Introduction

Since 1993, post-Soviet Russia has experienced political and economic shocks that continue to be felt today as risks to democracy, decentralization policies, and an open market economy continue to grow. Even as the economy expands at the macro-level, disparities across regions, social groups, and sectors continue to widen. In this critical time, the USAID Mission to Russia has been developing its strategic program for 2005–2010. This program takes into account its relative strengths, funding trends, time lines for continuation of components and programs, and a high-level of earmarked funding and programs.

As part of its planning process, USAID/Russia contracted Chemonics International through the RAISE IQC to conduct the present biodiversity assessment update in keeping with legislative guidelines for the conservation of natural resources and biological diversity as prescribed in the Foreign Assistance Act (22 CFR 216) and subsequent amendments (sections 117 and 119), both included in Annex C. The original biodiversity assessment was prepared in 2002 when the Mission amended its 1999–2004 strategic program. The purpose of the current report as described in the scope of work (Annex A) is to identify the major changes in the status and trends affecting biodiversity in Russia since 2002 and actions needed to conserve biodiversity, as well as how USAID's program for 2005–2010 can address biodiversity conservation.

At first consideration, three years may seem too few to discern major changes and impacts to biodiversity in a country as large as Russia. However, the team's numerous interviews and research since 2002 has shown that institutional, policy, economic, and regional shifts have had a significant impact on the country's biological resources. While the broad actions needed to counter threats and negative trends to biodiversity are often well-known, the greatest challenge is how such actions might be carried out given current political and institutional uncertainties. Although Section 119 of the Foreign Assistance Act does not require USAID to intervene directly in conservation, the team hopes this report will be a useful guide for USAID to identify synergies and opportunities for building strategies and specific actions into its program to achieve objectives and enhance natural resources conservation upon which the well-being of the Russian people and development of the country so greatly depends.

A. Methodology

A senior American and Russian team comprised of specialists in biodiversity, natural resources, and environmental planning was fielded in August 2004. Two specialists from the original assessment team were able to participate in the update, which greatly enhanced the capacity of the team to identify changes and draw comparisons over the last three years. As part of the approved work plan, the team spent two weeks between August 19 and September 2, 2004 in-country for consultations in Moscow and field visits. Given the anticipated regional focus of the USAID/Russia 2005–2010 program with emphasis on the Russian Far East, the Mission requested that the team concentrate its efforts in this geographic area. Thus, while the assessment addresses biodiversity on a national scale, there is a decided concentration on the Russian Far East.

Before leaving for Russia, the team met with key USAID and State Department personnel in Washington, D.C. and organizations working in Russia. Once in Russia, the team received briefings in Moscow from all USAID strategic objective teams and the programming office, and met with the Mission director. While in-country, the team met with more than 80 people representing public, private, NGO, and academic institutions at both the national and regional level (Annex B) and concluded four field trips in Khabarovsk Krai and Primorsky Krai:

- Ussurisky Zapovednik
- Marine resources around Vladivostok
- Freshwater wetlands along the Amur River near the border with China
- Logging and wood processing operations of the Rimbunan Hijau company in the Sukpai area several hours east of Khabarovsk.

Returning from the field, the team conducted an exit briefing for Mission personnel, which was widely attended and included an environmental affairs specialist from the U.S. Embassy. A draft report was reviewed by the Mission and USAID/Washington, whose insightful comments and suggestions received at the end of 2004 were invaluable contributions to the final report. A debriefing for USAID/Washington staff was pending at the time the final report was submitted.

Due to time constraints, no original research was conducted. Rather, an extensive review of existing literature and documentation was performed prior to, during, and after the in-country mission. In addition to the key reports cited in the original assessment¹, other key sources were drawn on to substantiate the status of biodiversity in Russia and the threats to its conservation².

B. Acknowledgements

Many individuals contributed to this report. The team was repeatedly struck by the energy, creativity, and dedication of the many people who are working to conserve Russia's natural resources in the face of daunting obstacles and challenges. The assessment team greatly appreciates their willingness to share their time and ideas so openly and constructively. The USAID/Russia and Washington staff provided invaluable insights into the complex dynamic country that is Russia today, and helped ground the team's work to developing the 2005–2010 strategic plan. The team extends special thanks to Mission Director Terry Myers, whose enthusiasm spurred the team to "push the envelope" in exploring ways that USAID could continue to support conservation in the future. The CTO for this task order, Yuriy Kazakov, deserves special recognition for his assistance that contributed greatly to ensuring a positive result. Alicia Grimes, USAID/Washington, was instrumental in guiding the team and reviewing the draft report. Patrick Perner and Evgeny Zabubenin, from the FOREST project, were invaluable in arranging meetings and organizing field trips in Khabarovsk Krai.

The findings and conclusions of this biodiversity assessment update are those of the authors and do not necessarily reflect the views of USAID, the Government of the United States, or the Government of Russian Federation. Any and all omissions and errors are entirely the responsibility of the authors.

¹ WWF, 2001; SCEP, 1997; World bank; 1997.

² Greenpeace, 2001; Global Forest Watch, 2002; Biodiversity CRTIC, 2003; WWF, 2003; Newell, 2004; CIFOR/DFID, 2004.

SECTION II

Status and Threats to Biodiversity

A. Overview

This assessment focuses on updating information on the status of biodiversity in Russia since 2002 and the current challenges facing its conservation. The assessment team reviewed the original assessment findings to establish a context while examining new research and information at both the national and regional levels to establish trends. As discussed in detail on the following pages, many trends described in the original assessment continue unabated or have worsened, for example, political and social changes arising within the last several years and their effect on biodiversity conservation. Of particular significance is the decline of federal support for conservation over the last several years and the rise of regional governments, nongovernmental organizations, and local communities as major catalysts for conservation of Russia's vast biological resources.

Occupying one-eighth of the earth's terrestrial surface, Russia is known for its wealth of biodiversity (see Exhibit II-1). The country harbors more than 11,400 species of vascular plants; 269 species of mammals; 730 species of birds, of which 528 are breeding; 94 species of reptiles; 32 species of amphibians; 290 freshwater species; and tens of thousands of invertebrates, fungi, and protozoan. Globally, this represents about 8 percent of vascular plant flora, 7 percent of mammal fauna, and 8 percent of bird fauna.

Exhibit II-1. Number and Status of Species in Russia

Category	Known species in Russia	Threatened species in Russia	Threatened species in Russia as percent of total	Threatened species as percent of described – global
Higher plants	11,400	7	< 1	2.4
Mammals	269	45	16.7	23.3
Birds (breeding)	528	38	7.2	12
Reptiles	94	6	6.4	3.6
Amphibians	32	-	0	2.8
Fish (freshwater)	290	13*	1.9	2.7
Fish (marine)	400	*	*	*
Mollusks	-	1	-	1.4
Other invertebrates	-	29	-	< 1

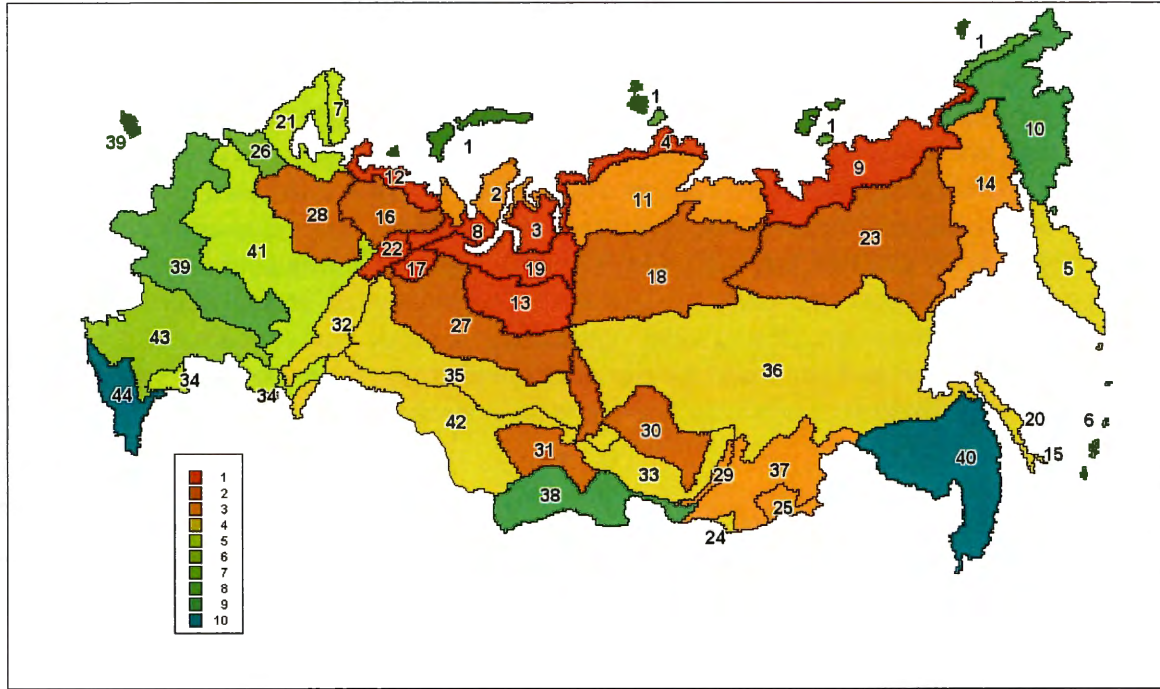
Red List of Threatened Species, (The World Conservation Union [IUCN], 2003)

* Not disaggregated between freshwater and marine species

In Russia there is a strong overriding correlation between areas of high biodiversity value and threats posed to these areas by increasing human presence and activity. Russia, especially European Russia, has long been affected by human activity, and biological resources increasingly constitute the basis for a large part of country's economic development and well-being of its citizens. Exhibit II-2 on the next page illustrates relative biodiversity values for different regions based on species richness, level of endemism, and presence of endangered species. Exhibit II-3 shows the degree of conflict between human impact on the environment and biodiversity. A

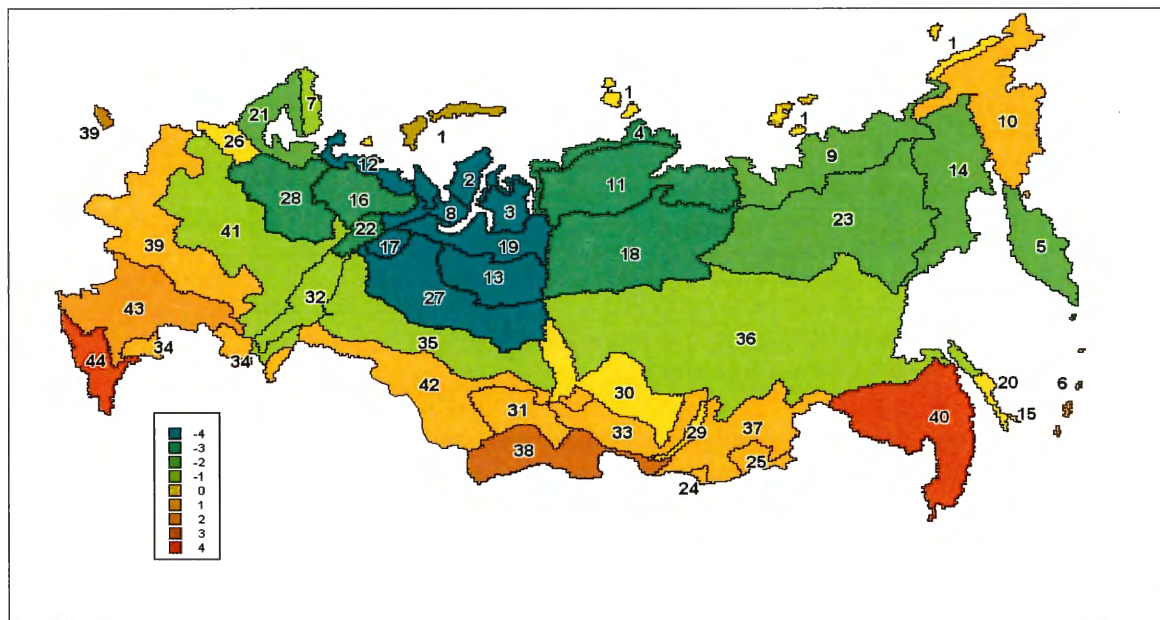
comparison of the two maps shows that the greatest pressures on biodiversity in Russia from human presence and activity are occurring in those regions with the highest biodiversity values.

Exhibit II-2. Relative Biodiversity Values for Different Regions



Light green to blue indicates regions with a high degree of biodiversity, endemism and endangered species. Numbers 1 through 44 represent eco-regions referenced in Annex D (WWF, 2001).

Exhibit II-3. Degree of Conflict Between Human Impact on the Environment and Biodiversity



Yellow to orange indicates a high degree of conflict between biodiversity conservation and development, while light to dark green and blue indicates a low degree of conflict. The numbers 1 through 44 reference the names and descriptions of eco-regions referenced in Annex D (WWF, 2001).

The widely recognized Global 2000 Report³ identifies 233 eco-regions of global priority, including 19 in the Russian Federation, listed below along with corresponding major threats.

Major Threats to Global Biodiversity Conservation in the Russian Federation

- *Altai-Sayan Montane Forests* — uncontrolled logging (transport corridor for logs to China); revived hydropower construction on Katun river; habitat fragmentation; wildfires; land-use conversion.
- *Barents-Kara Sea* — overfishing; pollution.
- *Bering Sea* — overfishing; pollution; degradation of reproduction habitat.
- *Caucasus-Anatolian-Hyrcanian Temperate Forests* — coastal resort development; land-use conversion intrusions into Sochinsky National Park.
- *Chukote Coastal Tundra* — mining; poaching (stone sheep, brown bear, Kamchatkan marmot).
- *Daurian Steppe* — conversion to agriculture; cattle grazing; water erosion.
- *Eastern Siberian Taiga* — unmanaged logging; oil and gas pipelines to China and Pacific Coast.
- *European Mediterranean Montane Mixed Forests* — coastal and resort development; fragmentation.
- *Fenno-Scandia Alpine Tundra and Taiga* — fragmentation from unmanaged logging.
- *Kamchatka Taiga and Grasslands* — wildfires; uncontrolled forest harvesting.
- *Lake Baikal* — unplanned development; planned oil and gas pipelines; pollution.
- *Lena River Delta* — pollution; poaching.
- *Northeast Atlantic Shelf Marine* — overfishing.
- *Okhotsk Sea* — development of petroleum reserves; over-harvesting of marine invertebrates.
- *Russian Far East Rivers and Wetlands* — Bureya River hydropower stations; transboundary water pollution; overfishing especially of salmon and sturgeon; human-caused wildfires; poaching; introduction of exotic fish species.
- *Russian Far East Broadleaf and Mixed Forests* — uncontrolled harvesting of wood and non-timber forest products; sedimentation of waterways; pipeline construction; exotic species; forest type conversion to birch and aspen.
- *Taimyr and Siberian Coastal Tundra* — mining.
- *Ural Mountains Taiga* — large dam construction on Belaya river; forest fragmentation; wildfires; changes in forest composition with spread of birch-dominated forests.
- *Volga River Delta* — air and water pollution; poaching of sturgeon, saiga antelope, etc.

B. Terrestrial Resources Status and Threats

Russia encompasses eight terrestrial biomes and 44 eco-regions ranging from Arctic deserts and tundra to taiga forests, steppe forests, and mixed deciduous-conifer forests. The original assessment presented summaries describing each major terrestrial biome and the area it covers. These summaries are included in Annex D. Russia holds 23 percent of the world's forest resources and some of the largest tracts of intact native forests remaining in Europe and Asia⁴. Centers of high terrestrial biodiversity and speciation include the northern Caucasus, steppe and steppe forests of southern Europe and southern Siberia, and the mixed forests of southern Russia Far East. Other terrestrial ecosystems, though less rich in number of species, are important habitat for highly endangered fauna and large herds of ungulates.⁵

Changes in land use over time have affected and continue to significantly impact the landscape and the species living there. The greatest changes to the landscape and losses of biota in Russia have occurred in the northern Caucasus, central European Russia, the Volga region, and southern Siberia. Two biomes of European Russia, broad-leaf forests and steppes, have been almost

³ WWF, 2000.

⁴ GFW/Russian, 2002.

⁵ WWF, 2001.

completely transformed by human activities. Subsections B1-B3 below describe the most important land-use changes and how they affect biodiversity conservation. The reader is referred to sources cited in the footnotes and bibliography for more in-depth coverage of this topic.

B1. Urbanization

Since the start of the post-Perestroika era, migration from rural to urban areas has been a significant trend. Almost 70 percent of the population now lives in one of Russia's 35 or more cities exceeding 1 million people but occupying less than 1.5 million hectares. The concentration of investment, better employment opportunities, and availability of basic services in these cities has fueled an unprecedented exodus⁶ from rural communities. This has been exacerbated by the decline in private and public investment (subsidies) in rural areas and less stringent government controls on internal movements allowing Russians to "vote with their feet" in response to economic opportunities. Urbanization has two major impacts on the conservation of biodiversity and natural resources: 1) reduction in management intensity and extraction from agriculture and forest resources across vast areas of rural Russia, and 2) intensification of management and conversion of lands in areas adjacent to swelling urban areas.

The policy and planning infrastructure at the municipal level seems to adequately identify and restrict development in fragile areas through zoning. The Urban Development Code Territorial Comprehensive Scheme for urban planning and the Urban Development Code (1998) stipulate municipal obligations to meet requirements regarding the conservation of natural areas through environmental assessments. The framework law also spells out regulatory authorities and competencies. Unfortunately, authority for environmental review procedures and enforcement, which would determine conservation areas (e.g., protected areas, utility watersheds, conservation easements), is found in the Environmental Impact Assessment Act of 1995. Implementation of the act relied exclusively on the recently disbanded State Environment Committee Municipal, and city governments have neither the authority nor resources to identify and protect critical wetlands or set aside parklands around urban areas important to recreation and ecological preservation.

B2. Agriculture

Nationally, clearing for new agriculture has significantly decreased. The base area for agriculture production declined by 6 percent during the 1992–2001 period⁷ to roughly 125 million hectares. During this period, agriculture's contribution to GDP declined from 16 percent to 7 percent as state-supported farms collapsed⁸ with much land fallowed, abandoned, or converted to subsistence use. It is also estimated that the use of fertilizers declined by approximately 75 percent and was accompanied by a commensurate decline in the use of pesticides, although this latter aspect is poorly documented.

The exact impact of changing agricultural land uses is difficult to discern. It is reasonable to assume that pressures on more fragile, less productive upland and forest areas may have been reduced. However, there is secondary information to suggest that wetlands have come under

⁶ Vladimir K. Stortchev, *Sustainable development of transportation systems in Russia's largest cities*, 2001.

⁷ U.N. Food and Agriculture Organization (FAO), FAOSTAT on-line statistical service, 2004. Available on line at <http://apps.fao.org>.

⁸ The World Bank, *World Development Indicators*, 2002.

added pressure as agriculture has expanded into more fertile bottomlands, especially in the Russian Far East with growing Chinese investment to supply growing large markets along the border. Other observations suggest that as expansion of the agricultural frontier has slowed or even reversed since the fall of the Soviet Union, extractive activities on natural lands, such as hunting, trapping, and harvesting of non-timber products, have increased in response to soaring unemployment and general poverty in rural areas. Indeed, many extractive off-farm activities are essential to the food security and livelihoods of most rural Russians whether it be for fuel, food, or fiber. Forest and wildlife products from the woodlands and shelterbelts within the agriculture landscape provide cultural, economic, and political security for local inhabitants and anchor biodiversity values.

While agriculture expansion poses no immediate threat for broad ecosystem-level biodiversity, there are indications that localized pollution and over-harvesting are concerns. Riparian zones, wetlands, and river deltas are under greatest threat and lack of sufficient environmental monitoring and planning is a significant constraint to conservation of these areas.

B3. Forestry

Forests cover about 69 percent of Russia, or more than 11.9 million square km, with 78.8 percent of dense forests located in the Asian part and 21.2 percent in European Russia (see Exhibit II-4 on the next page). Of this area, 26 percent comprises tracts of intact forest landscapes (> 50,000 ha) of mostly secondary forests or disturbed primary forest.⁹ Tracts of ancient forests now dominate only the most inaccessible parts of eastern Siberia, the Russian Far East, and the most northern reaches of European Russia. No intact forest landscapes remain in central and southern Europe.¹⁰

Across Russia, intact forest landscapes are at risk from forest fires, expansion of timber cutting, and infrastructure associated with mineral exploration and extraction that is having a significant impact on vegetation dynamics and further fragmentation. Commercial forestry has fragmented and depleted boreal forests, especially in northern Russia and Fennoscandia (the area including Scandinavia, Finland, and adjacent areas of northwest Russia). The threats to remaining expanses of intact forest are particularly acute in the biologically rich and highly productive temperate broad-leaf and mixed conifer-broad-leaf forests of southern Siberia, the Russian Far East, and European Russia.¹¹

Russian forests contain more than 20 percent of the globe's total commercial growing forest and more than 50 percent of all softwood stocks. Even though forests in the northern half of Russia are economically inaccessible, due to slow growth or high transport costs, the extent and total output of the Russian forestry sector still has a profound and understated bearing on world forest product prices. Russian forests are also the world's largest terrestrial carbon endowment and have an unrivaled buffering capacity for global carbon fluctuation as well.

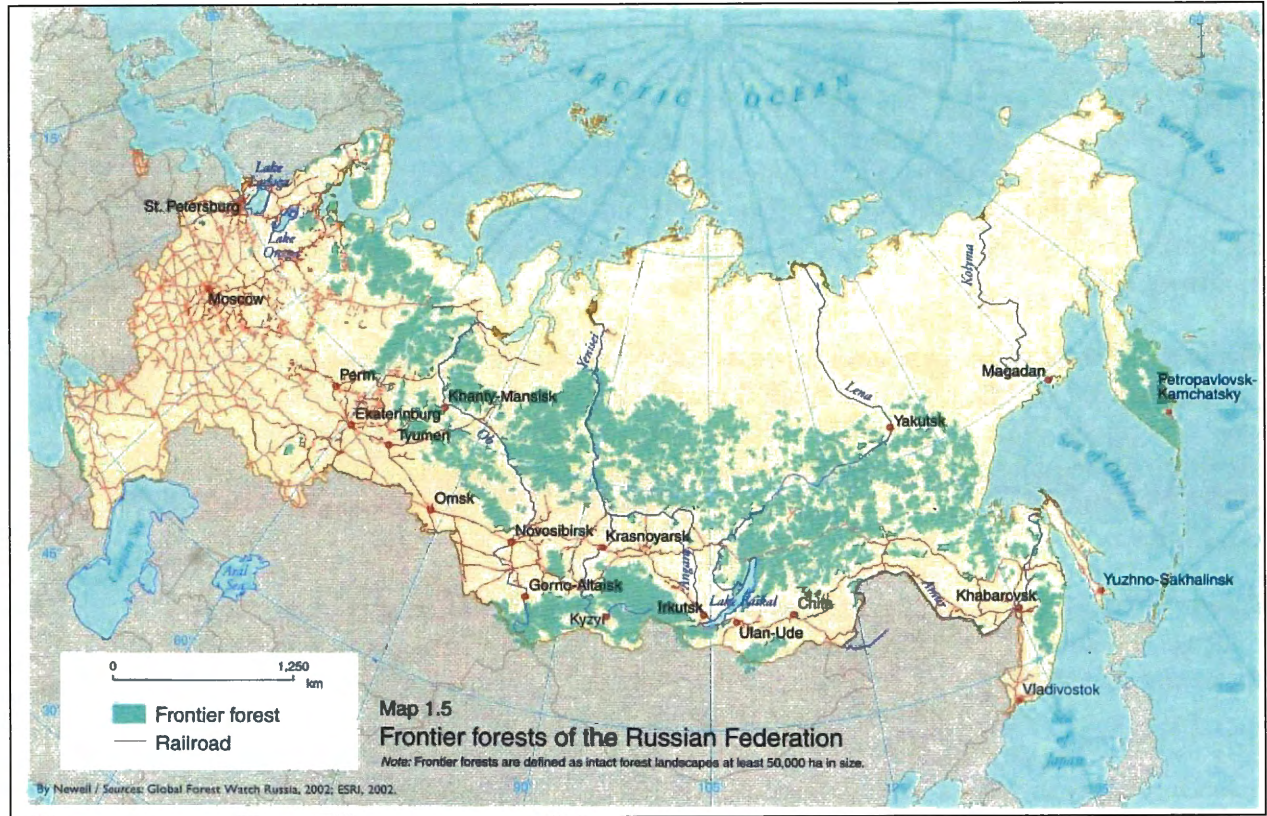
More than 90 percent of Russian forests are owned by the federal government ('Lesnoy Fund') and managed under the Forest Code (1997) for the maintenance of ecological functions and

⁹ FAO, Forest Resource Assessment, 2001.

¹⁰ GFW, 2002.

¹¹ GFW, 2002.

Exhibit II-4. Distribution of Intact Forest Landscapes



economic contribution. However, the overall economic value of Russia's immense forest estate, particularly in the eastern half of the country, is quickly eroding through a combination of neglect, corruption, and antiquated policies that undervalue this potential.

The Russian forestry profession is proud of its long history reflected in well-honed silvicultural practices adapted to each of the country's major forest types. The openness that has followed the fall of the Soviet Union, however, revealed significant lapses in applying theory to practice in the field, which has left Russian forests in a degraded state. While the UN Food and Agricultural Organization (FAO)¹² reports that forest cover in Russia actually increased between 1990 and 2000, other studies show that forest quality is declining. One of the most striking indicators of the poor health of much of Russia's forests is the rapid spread of early successional birch (*Betula* spp.) and aspen (*Populus tremula*) forest types in European and Asian Russia. These less valuable species are rapidly regenerating on sites once dominated by higher value mature pine, fir, larch, and spruce forests¹³. In the Russian Far East, this spread is progressing at an annual rate of approximately 0.8 percent¹⁴. Forest type conversion on such a large scale is likely to have far-reaching economic and biological consequences for decades.

¹² FAO, 2001

¹³ GFW, 2002.

¹⁴ Josh Newell, *The Russian Far East: A Reference Guide for Conservation and Development*, 2004.

In rural areas where there are few economic prospects, the forest industry offers one of the only real options to stem urban migration and depopulation across wide areas of Russia. But investment in forests and forestry has essentially been declining since the late 1980s and the forest sector now makes a substantially reduced contribution to the formal sector. Whatever value is captured occurs through transfer payments and limited collection of royalties that accrue mainly to federal agencies with little revenue sharing with municipalities or communities. Forestry in the Russian Far East offers stark documentation of how one of the most profitable and stable sectors over the past 100 years can rapidly lose capacity to capture value and stimulate investment.

According to noted Russian forestry expert Alexey Lankin, the following trends have been well established and documented by customs data in the Far East between 1998 and 2002¹⁵:

- Log and lumber exports to China increased 10 times, from \$100 million in 1998 to \$1 billion in 2002 (see Exhibit II-5 on the next page).
- Chinese demand will continue to surge and command the market for the next 20 years¹⁶.
- Softwood prices are steady but hardwood prices have fallen by 50 percent since 1998.
- Virtually all exports are still in the form of unprocessed logs (97 percent) although rough lumber exports are growing.
- Exports are dominated by 95 percent softwoods (pine, fir, spruce, larch) but hardwood exports are growing (birch, oak, ash, etc.).
- Numbers of limited liability companies and private traders have surged and now command 80 percent of exports.
- Chinese trade policies encourage round wood imports and dampen processed product imports.
- Current trade policies in Russia and China encourage exports of roundwood and favor collection of high economic rents by supply chain intermediaries.

Though difficult to document, there is general agreement among experts that trade statistics significantly understate real trade by perhaps 30 percent due to well-established parallel markets for semilegal and illegal log sales along the porous Russo-Chinese border. Reliable statistics are further complicated by poor interagency coordination between the State Statistical Committee, the Ministry of Natural Resources, and the Ministry of Economic Development and Trade. The reader is referred to Lankin (op. cit) or Lebedev¹⁷ for more thorough disclosure of the numerous types of “illegal logging”¹⁸ practices, infractions, and remedies.

¹⁵ Lankin, A., Status and trends in forest product exports from the Russian Far East and Eastern Siberia to China (draft). Forest Trends/Pacific Institute of Geography, 2004.

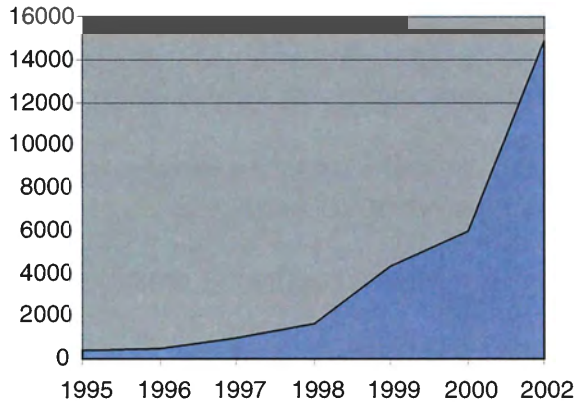
¹⁶ The Chinese are unlikely to satisfy more than 50% of domestic demand through plantations for the foreseeable future virtually guaranteeing increasing dependence on Russian subsidies. Andy White, personal communication, 2004.

¹⁷ Lebedev, A., Siberian and RFE timber markets for China: criminal and official technologies, volumes and trends (draft), 2004.

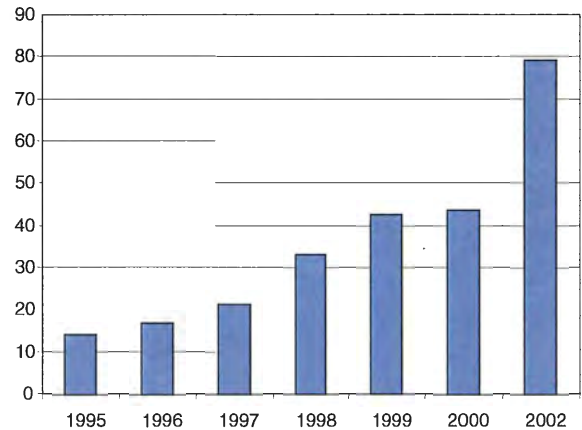
¹⁸ Illegal logging covers a wide variety of illegal behavior, including theft, harvest, transportation, and/or export without permits, inaccurate or intentionally mislabeled products, failure to pay royalties or taxes, or unrecognized resale of logs or products. It also includes noncompliance with prescribed harvest regulations, established management plans and regulations, and nonconformance with applicable post-harvest site closure requirements.

Exhibit II-5. Chinese Log Imports from Russia

Chinese Log Imports from Russia in 000m3
(Lebedev op. cit)



Chinese Log Import as % of Total Imports from Russia.
(Lebedev op. cit)



The complexity and increasing demand of the Chinese markets leaves Russian producers and traders at distinct disadvantages as stumpage prices erode further, discouraging investment in forest management and local processing. China agreed to invest \$400 million in forest harvest and milling capacity within a recent Intergovernmental Forest Trade Agreement (2000). However, most investments to date have been aimed at increasing access to and ramping up harvesting of near-border forests. The downward spiral in incentives for sustainable management is already causing over-harvesting in many locations, most often in southern forests where biodiversity is relatively high.

"Our joint ventures with China now exceed those with Japan, South Korea and the United States combined, mostly in trade, timber and wood processing."

— Vladimir Kuchuk, *Russian International Affairs Advisor*
New York Times, March 30, 2004

There is also pressure by the government to "get the cut out," with officials frequently saying that Russia only harvests approximately 25 percent of the estimated current annual growth, or allowable annual cut (AAC), of its forests, implying that there is a wide margin to increase volumes without risk of over-harvesting. This reasoning is founded on shaky statistics and assumptions. AAC is a biological measure of growth across the entire Russian forest estate and does not accurately depict the economic frontiers for logging in inaccessible and more fragile forest zones. Furthermore, extrapolating from the total area burned annually, it is estimated that up to 50 percent of annual growth is lost each year to fires. Finally, any measure of AAC must account for the forest's growth capacity and composition following logging. As the team was able to observe firsthand in the field, poor logging practices, damage to soils and residual stands, and low investment in reforestation or subsequent silvicultural treatments are severely diminishing this productive capacity.

A strong ruble and declining interest rates would favor investments in forest management, upgrading harvesting equipment and establishing modern processing plants. This would undoubtedly benefit Russian Far East economies by creating jobs in regions where forest-dependent activities are among the few options available for a largely unskilled, undereducated

work force. Alternatively, increasing inflation or interest rates, a softening ruble, or further declines in human resources would work against needed investments in the sector. These shifts would also extend the commercial logging frontier into northern areas.

The economic situation described above is exacerbated by other trends. Russia now loses some 5 million acres, two to three times the area logged, yearly through man-caused wildfires¹⁹. The most significant and “catastrophic” fires occur far from settlements on previously logged sites where poor management practices lead to increased fuel loading and conditions conducive to high risk of ignition either from natural or human causes.²⁰ The assessment team confirmed this finding with numerous Russian experts and field foresters, site visits to recent fires and logging areas, and analysis of remote sensing data. Although the incidence of forest fires may be reduced from heightened fire awareness, most of the damage appears to occur from fires associated with previously logged areas.



Fire hazard from logging slash accumulation. Rimbunan Hijau forest concession, Sukpai, Khabarovsk, Russia.

In areas such as the Sikhote-Alin range, home to the densest populations of endangered species in the Russian Far East, poor cutting practices result in buildup of fuel loads on cut over areas, and increased road traffic and access along open logging roads create conditions for extreme fire risks. Using satellite imagery, the 2002 assessment made a strong argument associating the occurrence of catastrophic fires with logging operations, a relationship widely disregarded by officials at the time. New research further bolsters this link²¹. Although heightened public awareness about forest fire is important, there is little doubt that catastrophic fires most often occur on previously logged areas.

Based on interviews and official statements reported in the press, there now seems to be a growing willingness by officials to ascribe many, if not most, significant wildfires to forest harvest operations. But this has not necessarily been translated into more targeted prevention and enforcement efforts. As forestry activity has picked up with revival of the economy since 1998, there has been a steady *increase* in the forest area burned annually. The absence of aerial fire patrols, the deterioration of fire-fighting equipment, and underfunded, undermanned fire crews are other factors contributing to this increase. Exhibit II-6 on the next page illustrates recent trends and calls attention to the weak correlation between the annual number reported fires and actual area burned.

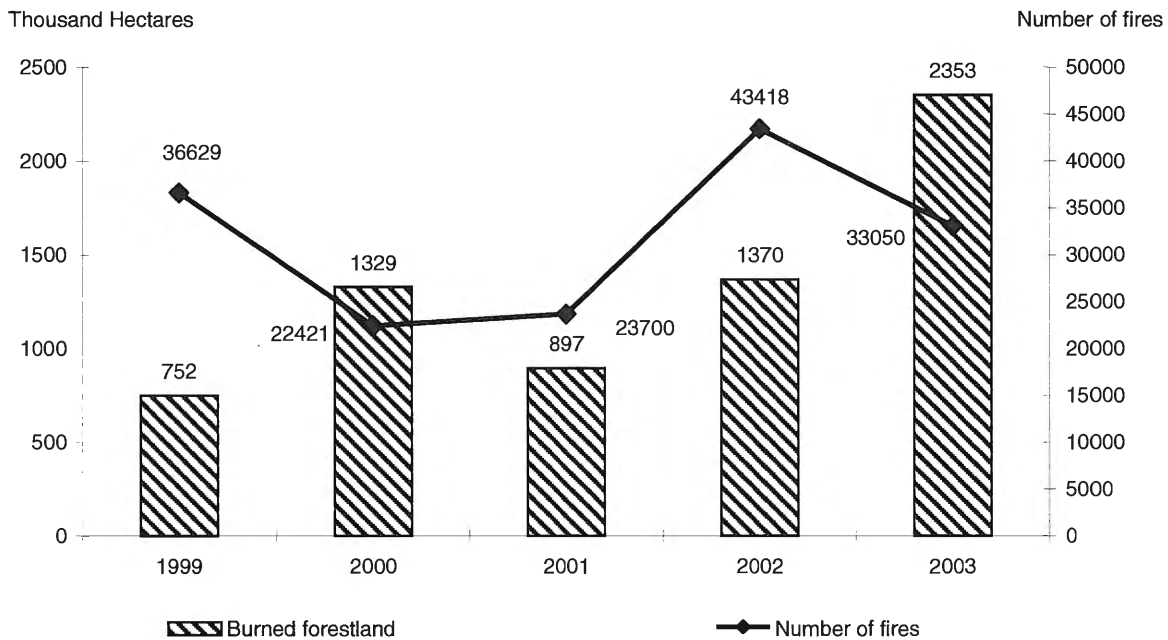


Damage to residual natural regeneration from poor log skidding practices. Rimbunan Hijau forest concession, Sukpai, Khabarovsk, Russia.

¹⁹ Russia State Committee on Statistics, 2004.

²⁰ Cushman, S. and D. Watlin, 2001.

²¹ Greenpeace & Global Forest Watch, 2001, Global Forest Watch et al, 2002.

Exhibit II-6. Number of Forest Fires and Area

Source: *Environmental Report of Russia State Committee on Statistics, 2004.*

The team made a field visit to the site described in the original assessment in the Sukpai region that is part of one of the two 450,000-ha concessions operated by Rimbunan Hijau, a Chinese-Malaysian company, to observe logging operations firsthand. Logging crews of untrained contract labor from China are now regularly employed to carry out highly selective and often destructive logging practices. They are supervised Chinese managers with no apparent technical training in forest management. Technical oversight is left to “Leskhoz” foresters who must rely on ancient vehicles, meager budgets, and uncertain salaries to manage vast areas “under management.” The team was told that forestry practices observed in Sukpai are typical of timber operations in other parts of Russia, especially the Russian Far East.

Currently, the Forest Code requires either clear felling or removal of most of the standing volume, including species or damaged trees with no market. Although practices are aimed at reducing selective cutting or “high grading,” much of the timber is removed from harvest areas only to be centralized in areas (“yards”) where it is then sorted and much of it abandoned. The result is that large volumes of defective, damaged, or otherwise unmerchantable timber is left in the forest or along roads where it adds to fuel loads that feed hotter and more destructive fires. Perhaps worse, antiquated Chinese-made metal tractors crisscross harvest areas to skid logs to haphazardly placed logging “decks.” This practice is highly inefficient, causes soil compaction, and increases erosion and sediment loads in streams. This type of equipment also causes severe physical damage to valuable residual trees and natural regeneration.

C. Freshwater Biological Resources Status and Threats

The Russian Federation holds more freshwater resources than any country in the world. Inland wetlands and other freshwater aquatic ecosystems are extensive, represented by 2 million lakes

and 120,000 rivers totaling 2.3 million km, including the Amur River basin shared with China and Mongolia, the longest un-dammed river in the world. Globally, five of the 25 largest rivers flow through Russia²². The country is also steward of 35 Ramsar sites (wetlands of international importance) covering more than 10 million ha or more than 50 percent of the total area under Ramsar status in Europe and 10 percent worldwide²³.

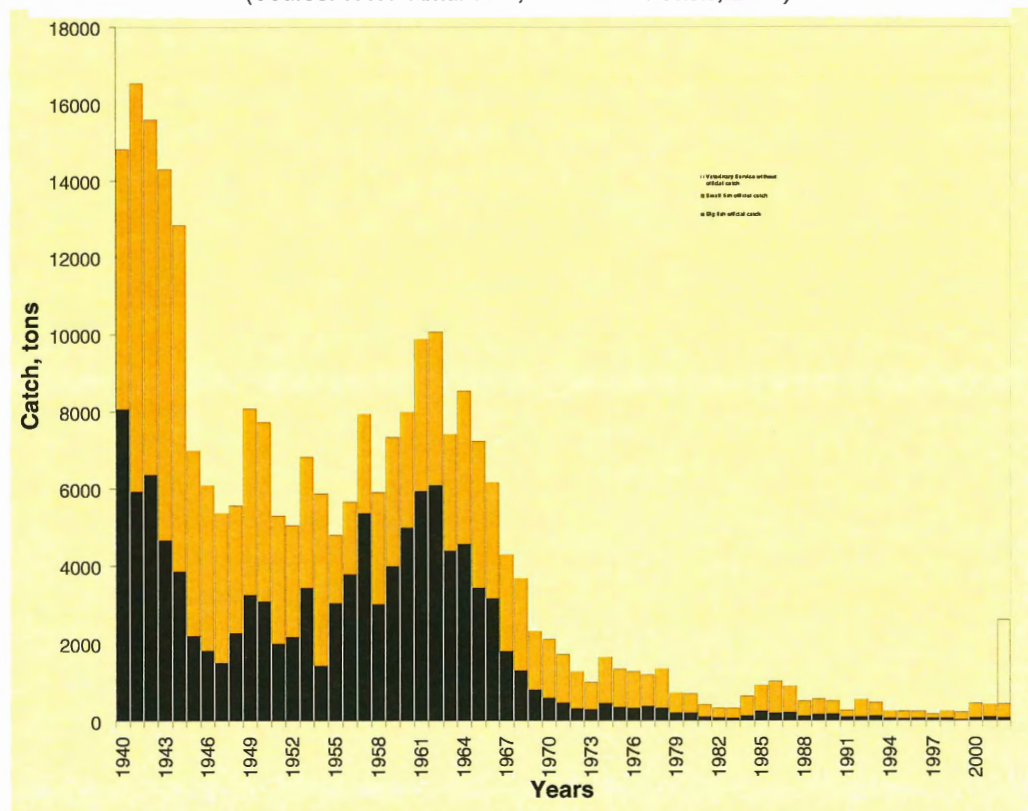
Freshwater ecosystems face numerous threats. Pollution from industrial and municipal sources is a main concern. The Volga River is among the most polluted of waterways in the world, receiving 45 percent of all contaminants generated nationwide²⁴. The Amur River ecosystem has been highly impacted from untreated wastewater and agricultural runoff containing pesticides and fertilizer

nutrients originating upstream from China; overfishing to supply growing demand in China; and degradation of wetlands from agricultural expansion, industrial development, and man-caused wildfires. The extent of degradation of the Amur River is mirrored by the loss of two-thirds of waterways historically used

by spawning anadromous fish and a 95 percent crash in the reported fish catch since 1960, including commercially important salmonoid and sturgeon species (see Exhibit II-7 above). The biodiversity of native fish species is severely affected. Twenty percent of Amur fish species are now exotics, many of them actively introduced by fish farmers in neighboring China. This number is growing rapidly, and some previously common carp species are now rare. Other economic losses could be incurred as declining water quality becomes a public health hazard and municipalities are forced to invest in costly water treatment facilities²⁵.

Exhibit II-7. Fish Catch (mT) Amur River, 1940-2002

(Source: WWF *Amur Fish, Wealth and Crisis*, 2004)



²² Amur, Ob, Volga, Lena, Yenisey.

²³ IUCN, 2002.

²⁴ FAO, 1997.

²⁵ WWF, 2004.

D. Marine Biological Resources Status and Threats

Russia is the world's largest sea state and has the most extensive continental coasts (60,000 km) on the planet. Russian jurisdiction extends to 13 seas. Land-sea ecotones are distinguished by extremely high biodiversity. Seacoast deltas formed at the mouth of major river systems represent the largest wetlands in Russia, and are important habitat for millions of nesting, wintering, and migrating waterfowl. Both near-shore waters and the high seas are habitat for sea mammals, including 32 whale species, most of which are protected internationally. Only 10 percent of the population in Russia lives in the proximity of the coast, a far lower density than commonly found in other countries. Nonetheless, development of economic hubs in coastal zones for ports and terminals has been important, especially to service the growing oil and gas sectors. With the collapse of the USSR, Russia's coastline along the Black Sea and Azov Sea are limited and recreational sites are at a premium, spurring unplanned development of complexes that have put significant pressure on local environments.

From the 1960s until recently, Russian naval authorities customarily dumped liquid wastes and buried solid nuclear wastes and obsolete reactors from submarines and nuclear icebreakers in the shallow waters along the eastern coast of the Novaya Zemlya archipelago and in the Barents and Kara Seas²⁶. Although the wastes were often buried in special protective covers designed to prevent contact with sea water for several hundred years, at least in theory, these sites, together with the Russian Federation's aging nuclear submarine fleet, represent an important potential threat of nuclear contamination.²⁷

Pollution along the coast of the Russian Federation, mainly by oil and oil products, heavy metals, and pesticides is concentrated mainly in ports and bays and in the vicinity of river deltas where accumulated pollutants can reach high levels. In addition, point-sources of pollution, for example, pulp and paper factories, can have serious impacts locally. In the Russian Far East, serious potential threats are presented by off-shore oil drilling at the northern tip of Sakhalin Island, the dumping of liquid radioactive wastes in the open parts of the Sea of Japan, and rusting nuclear submarines in naval bases along the coast north of Vladivostok.

In northernmost latitudes, over-harvesting of commercially valuable marine species from relatively short food chains is a major ecological concern. Environmental damage in the Arctic is attributable to natural resource extraction and processing. Industrial processing is causing severe local contamination, mainly by mining activities. The Arctic contains some of the world's largest oil and gas reserves that are being rapidly brought into production. Causes of existing and potential damage to the environment include localized leakage and blow-outs, tanker spills, and pipeline leakages. In the Arctic, these activities threaten the livelihood of indigenous groups that traditionally support themselves from the sea. Several migratory bird species spend a significant period of each year in the Arctic, often using the region as a breeding and hatching ground. These species are particularly vulnerable to environmental contamination. More than 35,000 oil spills and leaks are registered annually²⁸.

²⁶ Governmental Commission on Radioactive Waste Pollution of the Seas 1993.

²⁷ Arctic Monitoring and Assessment Programme (AMAP), *Arctic Pollution Issues: A State of the Arctic Environment Report*, 1997.

²⁸ CDI, 2002.

Overfishing and illegal fishing, mainly for export markets, are major threats to certain high-value biological marine resources like red and blue king crab and pollack. Official catch data is unreliable due to unrecorded and underreporting of shipments and revenues. Extrapolating from statistical data from major importing countries including Japan, US, and Europe, export volumes exceed official quotas by as much as 40 percent for some species, representing annual revenues losses of \$2.5–4 billion²⁹. Additional rents have been lost through the shift of fisheries industry service activities to foreign ports because of deteriorating Russian port infrastructure, bureaucratic red tape, and corruption. Local populations of some species, like sea cucumbers in waters surrounding Vladivostok, have been decimated. As a result it has been reported that more than a third of the jobs in the fishing industry (approximately 120,000 jobs) have been lost in the past 10 years³⁰ as local processing declined and large industrial ships have taken over the market.

The economic, social, and ecologic consequences of inappropriate management and export trends are also being felt in traditional communities where fish are of critical value in terms of both livelihood and nutrition, as well in the average Russian household, where it is estimated that fish consumption has dropped more than 50 percent since 1991³¹. The nutritional value of fish is high and contains unsaturated fat, protein, essential vitamins, iodine, and selenium necessary for growth. The nutritional value of fish is even more important in those situations in which the total dietary package is insufficient. Most recent treatises on health in Russia describe faltering access to nutritional food. The export of most of Russia's fresh and marine fish is further reducing such access and has long-term consequences for health and economic productivity.

E. Protected Areas³²

The establishment of protected areas is a widely recognized tool for biodiversity conservation in Russia, with a tumultuous history. Legally protected areas trace their origins to hunting preserves set aside for the use by prerevolutionary nobility. The founding of the Soviet Union saw the establishment of a formal system of strict protection reserves (*zapovedniks*) that grew rapidly and covered 12 million ha by 1951. *Zapovedniks* were created to permanently protect examples of specific ecosystems or landscapes. All economic activity was originally prohibited, restricting uses to scientific research and education purposes. Citing economic reasons, Stalin in 1952 dissolved more than 70 percent of these strict reserves, and coverage declined to only 1.5 million ha. The *zapovednik* system has since recovered, and now protects 33.7 million ha; however, much of the originally preserved land had been logged or mined.

The rapid expansion of *zapovedniks* in the 1980s and 1990s has been halted in recent years. Current policy seems to restrict increasing protection to avoid conflicts with natural and mineral resource development. Since the original biodiversity assessment was prepared in 2002 no additional *zapovedniks* have been added to the national system, even though there remain large gaps in the protection of biodiversity at a national level. It is estimated that 10 of 58 Russian bio-

²⁹ Allison, Tony, *The Crisis of the Region's Fishing Industry: Sources, Prospects and the Role of Foreign Interests*. In: *Russia's Far East: a Region at Risk*. University of Washington Press: Washington; TRAFFIC annual estimates place the loss at closer to \$1 billion.

³⁰ John Sackton, editor, *Seafood.com*; (FAO,1996) estimated that there were 550,000 jobs in commercial fisheries in Russia, which would make the job loss closer to 50 percent.

³¹ "Russian Seafood Consumption Drops, www.seafood.com (7/99).

³² Unless otherwise noted, the primary source of information for this subsection is: *The Russian Far East: A Reference Guide for Conservation and Development* by Josh Newell, 2004.

geographic regions are still not represented in *zapovedniks* (or other categories of protected area) and only 40–50 percent of vascular plant, 87 percent of land mammal, 83 percent of bird and 73 percent of reptile species are conserved in *zapovedniks*. The global significance of Russia’s *zapovedniks* is large as they comprise 40 percent of the world’s strict nature reserves corresponding to The World Conservation Union (IUCN) Category Ia.


Zapovedniks were formerly the responsibility of the State Committee on Environmental Protection (*Goskomekologia*), but this jurisdictional status was downgraded in 2000 and now rests with the State Service for Environmental Protection, a department under the Ministry of Natural Resources. Relative to other categories of protected areas, *zapovedniks* are better funded and most have a permanent staff; however, funding levels are grossly inadequate. The Ussurisky *Zapovednik* near Vladivostok visited by the team is indicative of the system as a whole: staff wages are low, infrastructure is crumbling, and equipment is decaying. Some directors have indicated that it is difficult to maintain morale. The poverty found in many adjacent rural communities seems to have exacerbated pressure from illegal logging and poaching.

Ironically, the stringent use restrictions placed on *zapovedniks* and a highly centralized administration close possibilities for generating revenues from nonconsumptive uses like ecotourism, carbon credits, and international research permits, which could then be reinvested into protection. While encouraged, scholastic visitation is also limited in practice, missing a great opportunity to broaden the awareness and support for these important protected areas. While the very absence of people is what defines the *zapovednik* system, tourist and other visitation revenues may be the only way to ensure the long-term sustainability of something that is integral to Russian society and the oneness of the Russian people with their land.

Zakazniks are different from *zapovedniks* in that they provide temporary or permanent protection of ecosystems or specific species, and are usually established to protect game habitat and regulate hunting, although logging, mining, and other economic activities can be permitted.

In contrast with the federal government’s non-expansion of the national protected area system, regional governments have aggressively enlarged the area protected under *zakazniks*, as shown in Exhibit II-8 above. Unlike *zapovedniks* though, *zakazniks*’ status must be renewed every five years, which puts into question their long-term conservation. Administration of *zakazniks* is divided between the Ministry of Natural Resources (extraction of natural resources) and Ministry

Exhibit II-8. World Wildlife Fund, 2001; Ministry of Natural Resources, 2004



PROTECTED AREAS IN RUSSIA

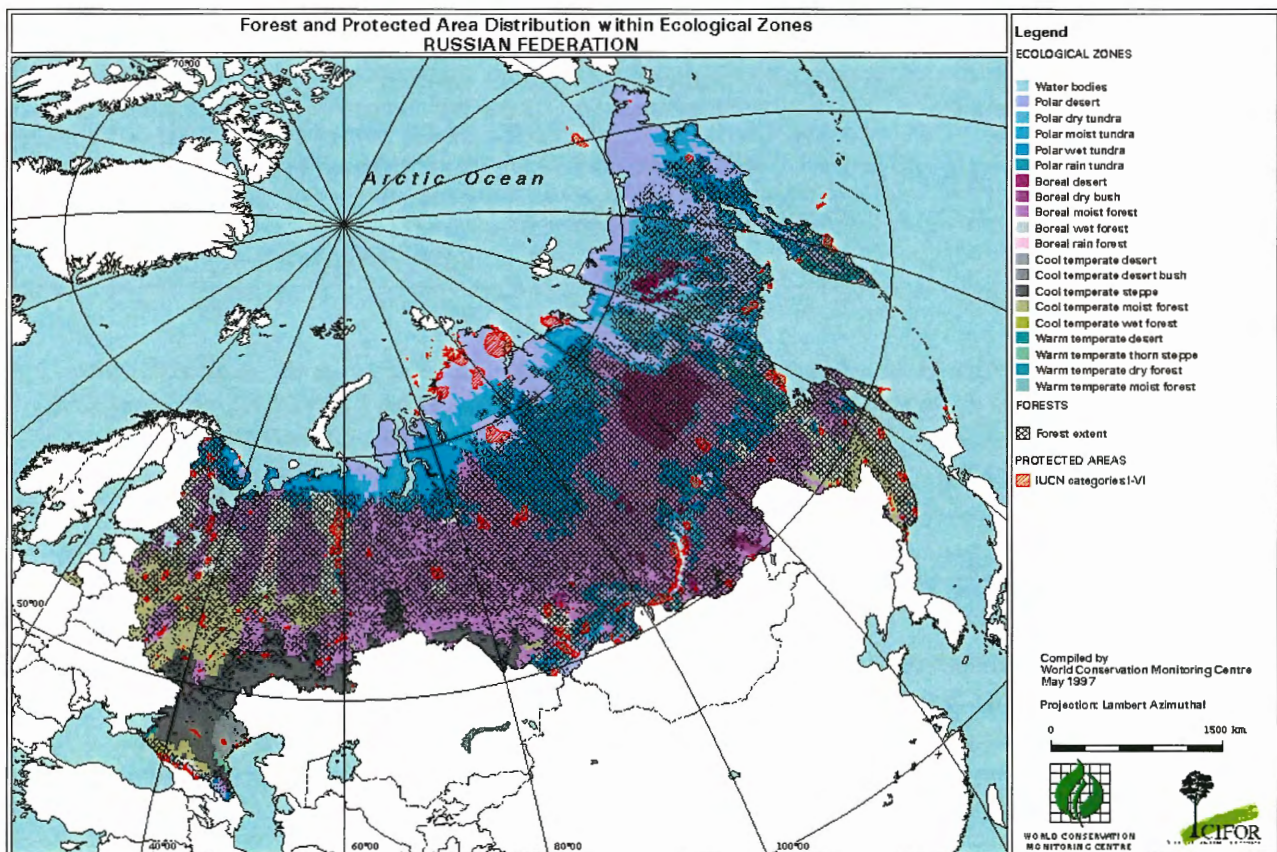
Category	Total Number 2001	Total Number 2004	Area (million hectares; % total territory) 2001	Area (million hectares; % total territory) 2004
Zapovedniks	100	100	33.5 (1.6%)	33.7 (1.6%)
National Parks	35	35	6.7 (0.4%)	7.0 (0.4%)
Zakazniks				
a) Federal	68	69	12.5 (0.7%)	12.5 (0.7%)
b) Regional	≈3000	4300	67.8 (4.0%)	101.4 (5.9%)
Nature Monuments				
a) Federal	27	40	0.2 (<0.1%)	0.4 (<0.1%)
b) Regional	≈10,000	9,235	2.6 (0.14 %)	4.1 (0.2%)
Nature parks	31	50	13.2 (0.8%)	14.3 (0.8%)
Total			136.5	173.4
Category I Forests <small>(including reserves & national parks)</small>			271,000 (16.4%)	

of Agriculture (hunting). Although the mandates of each ministry can run at cross-purposes, this arrangement may actually serve as a check and balance in decision-making during the renewal process. This is particularly important since the Ministry of Natural Resources gives higher priority to fostering economic development than to conservation objectives.

National monuments and national parks are two other categories of protected areas under the jurisdiction of the Ministry of Natural Resources. Natural monuments (*pamyatniki priorody*) are typically less than 500 ha, thus easier to establish and are sometimes combined to create larger contiguous areas rivaling *zapovedniks* or *zakazniks*. This category of protected areas corresponds to IUCN Category III. National parks were introduced only in 1983 and correspond to IUCN Category II. Though limited in number, national parks cover larger areas representative of unique ecosystems similar to *zapovedniks*, but permitted uses are less restrictive. National monuments and national parks should be an important complement to the protected area system, but their long-term viability is threatened by limited or non-existent funding.

There are other categories with some land and resource use restrictions that provide varying levels of protection for biodiversity. The decentralization fever that overcame Russia during *perestroika* spawned legislation creating “traditional-use territories” to protect indigenous lands (IUCN Category IV). Although use regulations are yet to be finalized, these reserves cover extensive areas mostly in Siberia and the Russian Far East. One problem has been overlapping claims with timber concessions, for example in Primorski Krai between Terneyles and the Udege indigenous peoples. (See exhibit II-9).

Exhibit II-9. Forest and Protected Area Distribution within Ecological Zones



Private nature reserves are still a rarity in Russia. The first such reserve, the Muravyovsky Nature Park in Amur Oblast, was established in 1993, as a joint effort between two international NGOs (International Crane Foundation and Wild Bird Society of Japan) and the Amur branch of the Socio-Ecological Union (SEU) under a lease agreement with a local municipality. SEU is in charge of managing the 5,000-ha reserve, which serves as a successful model for local empowerment in conservation decisions and management and nongovernmental funding for biodiversity conservation.

The 11.9 million sq km comprising the national forest estate, or Forest Fund, described in the adjacent box, dwarfs the area set aside for protection, and its importance to conservation of Russia's biodiversity cannot be ignored. In some cases the Forest Fund provides the only legal conservation mandate at a landscape level for many biomes. Development and sustainable management of the Forest Fund are major challenges for Russia. All forests are owned by the State and are grouped in three categories. Group I forests cover about 16 percent of the forest estate and have watershed, soil, biological, and other protective functions. In principle logging is

prohibited or severely restricted, but in practice is common under the guise of "sanitary" cuts. Logs are sold to make up budgetary shortfalls and pay salaries. Group I forests do not necessarily correspond to "high-conservation value forests," a classification commonly used internationally. Forests attributed to Group II are concentrated in regions with higher population densities and well-developed infrastructure and are reserved primarily for water conservation, protection, and recreation. These forests occupy merely 6 percent of the area. Group III forests include most of the Forest Fund available for production of wood and non-timber forest products.

Many experts interviewed believe that Russia's system of protected areas is at a critical turning point. At the same time regional governments have taken the initiative to strengthen the protected area system, political support from Moscow has waned. Local protests by communities, indigenous tribes, nongovernmental organizations, and regional governments over

Russian Forest Fund Categories

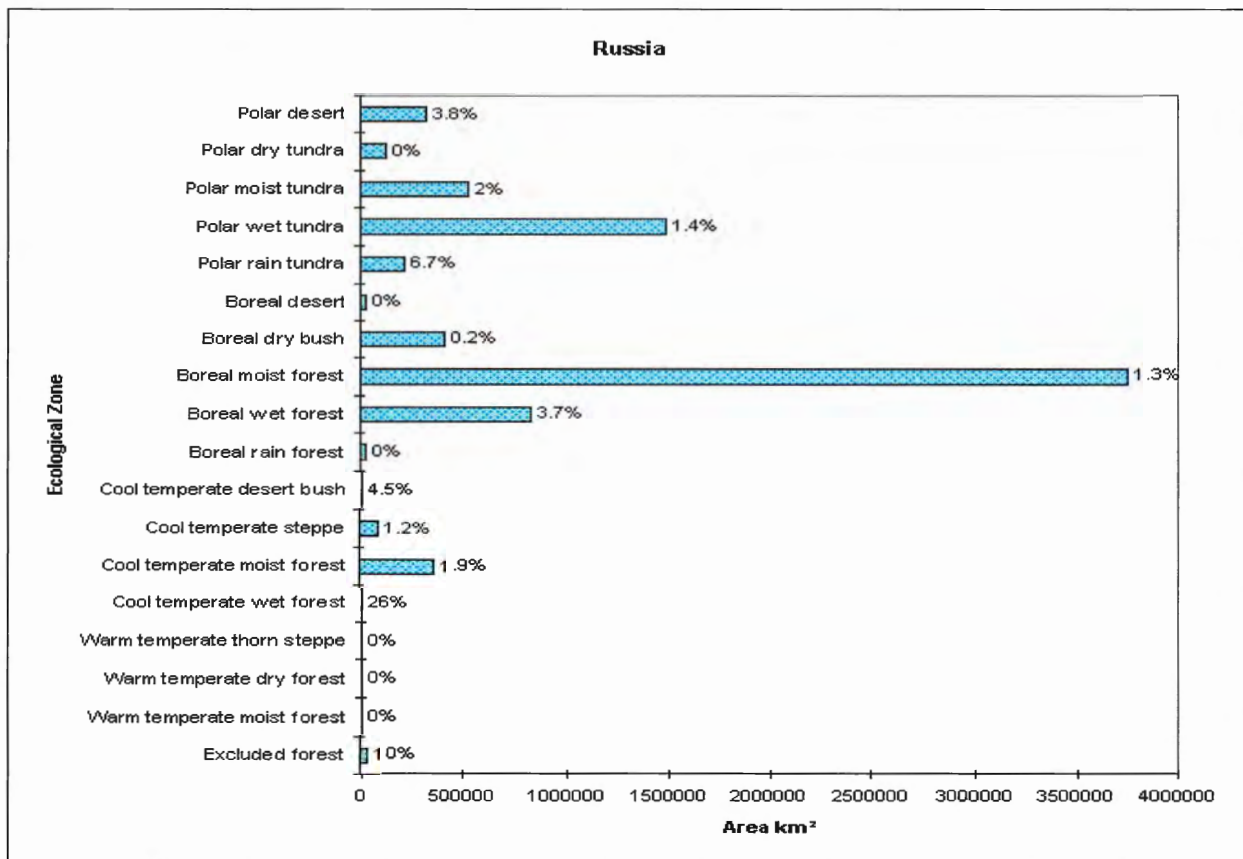
One of seven basic land-cover categories used in the former Soviet Union (and currently in Russia) is the Forest Fund (FF), which is, according to Russian legislation (1997), all forests and all land allocated for forest purposes. The FF is divided into forest land (FL) and non-forest land (NFL). FL is land designated for forest growth and includes forested areas (FA) and un-forested areas (UFA). FA are areas covered by forests with relative stocking rates of 0.4 or more for young stands and relative stocking rates of 0.3 and more for other stands. UFA are regions that are temporarily with no forests and include burned areas, dead stands, sparse forests, unregenerated harvesting areas, and grassy glades. NFL includes two land types: 1) areas that are unacceptable for forest growth under current conditions; and 2) lands set aside for special purposes. The latest Russian inventory manual further divides the FL into non-closed planted forests, forest plantations and nurseries, and natural sparse forests. The main forest-forming species include three groups of tree species: 1) coniferous (pine, larch, spruce, fir, and Russian cedar – *Pinus sibirica* and *P. koraiensis*); 2) hard deciduous (oak, hornbeam, ash, stone birch, etc.); and 3) soft deciduous species (basically birch and aspen).

In addition, each forest category is divided into three groups depending on the social purposes and the use of the forests. Group I: Protective forests that mainly fulfill environmental and social functions with very strong limitations on the industrial harvest. Group II: Mainly protective forests with restricted industrial use. Group III: Forests with several functions but whose principal function is production of industrial wood. In 1993, from the total FF area, forests of Group I covered 17.9 percent, Group II, 6.2 percent; and Group III, 75.9 percent. This distribution is evidence of the well-developed concept of multifunctional destination of forests. Forests of Group I are divided into protective categories (a total of 20 categories) and forests of Group III, into exploitable and reserved forests.

IIASA, Russia Academy of Science, 2002

gas and oil drilling, pipeline construction, mines, and allotment of timber concessions have persuaded the federal government to view protected areas (and indigenous territories) as potential obstacles to exploiting the country's rich mineral and renewable natural resources, and has essentially halted expansion of federal reserves since 2001. Compared with many other countries, Russia's protected area systems (excluding the Forest Fund) still covers a small percentage of the national territory and many ecosystems are poorly represented or absent. A relative comparison of 15 key countries shows Russia to have the lowest level of protection with just 2 percent of its territory in protected areas followed by Mexico (3 percent); China (3.6 percent), the United States (6.7 percent) and Canada (7.4 percent). Exhibit II-10 shows the area and percent coverage of Russia's main ecological zones in protected areas corresponding to IUCN Categories I – IV³³.

Exhibit II-10. Area and Percent Coverage of Ecological Zones in Protected Areas



Planning and management of federally protected areas have been under stress between 2001 and 2004 due to institutional and policy reforms within the Ministry of Natural Resources. The future of regional protected areas may be in doubt as the federal government reasserts its authority and institutional responsibilities remain in flux. The protected system as a whole has suffered budget cutbacks. By 1998 funding for all protected areas dropped by 60–80 percent from 1992 levels. Although overall budgetary funding has increased almost two-fold since 2001, this recovery starts from a very low baseline.

³³ IUCN, WCMC, 1997.

F. Erosion of Government Support for Conservation³⁴

Perestroika ushered in a new era in environmental and conservation governance in the Russian Federation. The 1993 Constitution recognizes the importance of protecting land and natural resources in the Russian Federation and the right of its citizens to a “healthy environment, accurate information about its condition, and compensation for damage to health or property as a result of violation of environmental law.” The Ministry of Environmental Protection (MEP) was created and the Federal Forest Service retained its long tradition as an independent agency with an extensive system of regional and local districts (*leskhoz*s) staffed by about 100,000 professionals. Many progressive policies were adopted, such as the “polluter pays” principle, decentralization of regulatory oversight to the regions, revenue sharing with regions, and expansion of protected areas. The period from 1993 to 1997 remains the zenith for government support for conservation.

This began to change with establishment of the Ministry of Natural Resources (MNR) in 1996. Originally charged with the development and implementation of policies related to research, use, and protection of natural and mineral resources, and water use and protection, the MNR’s influence in economic development policy has steadily grown. In 1997, the Ministry of Environmental Protection was replaced by the State Commission for Environmental Protection (SCEP). Though no longer enjoying ministerial status, the SCEP remained independent as it carried out its duties for environmental impact assessments, regulatory control, and management of protected areas. The Federal Forest Service (FFS) was in charge of forest use, reproduction, and protection. Together these two agencies were responsible for control and enforcement of most regulations and procedures related to biodiversity conservation.

This situation changed radically when responsibility for environmental protection and use of forest resources was given to the chief bureaucratic rival of the SCEP and FFS, the Ministry for Natural Resources, transforming the SCEP and FFS into departments within the MNR. Environmentalists say this structure represents an inherent conflict of interest because of the MNR’s central role in policy and decisions over development of Russia’s mineral, petroleum, fish, and forest resources.

Merging the two agencies that monitored and managed most of the country’s natural resources into the MNR has caused competing rules on resource use and environmental protection, weakening the system and increasing opportunities for corruption. This has been compounded further by constant change and ambiguity over the authority and responsibilities between the federal and regional level. At the time of these administrative reforms, the MNR also announced that it would “simplify” the environmental rules governing industry, leading to a further relaxation of controls that have already proved ineffective.

Staffing levels have continued to decline and there has been a significant reductions in on-site environmental inspections and issuance of violations since 2000, even as industrial output, oil, and gas exploration and forestry production have recovered from 1998³⁵. Many government officials and observers interviewed readily admitted that “illegal” logging (i.e., without proper

³⁴ Much of the discussion on government policies is derived from in-country personal communications with the assessment team.
³⁵ SCEP, 2004.

permits) has increased in the last four years. Most budgets only cover about 25 percent of payrolls for Forest Department field personnel, who must make up the shortfall through means which may include selling timber or resorting to bribe-taking. The fiscal situation continues to worsen due to the existence of barriers to capturing royalties and taxes on resource production, especially forest products. In late 1999, the Duma abolished the Federal Ecological Fund that had been designed as a repository for monies derived from fines levied for environmental infractions and resource-user fees under the polluter-pays policy. These revenues had been earmarked for environmental protection and resource conservation programs. Another main revenue source for the environment, “federal environmental programs,” partially financed through the Federal Ecological Fund, was in steady decline and finally abolished in August 2004 in the course of most recent administrative shake-up.

The federal general budget and regional sources are the only remaining government funding mechanisms for environmental protection and conservation. A growing budget surplus fueled by royalties and taxes from oil, gas, and other natural resource exports has allowed funding increases for some categories of protected areas and environmental functions from 2001 to 2004, but many observers agree that this investment has not translated into better administration, regulation and management of biodiversity. With budgets increasingly under the control of the federal government, priorities do not necessarily coincide with regional and local needs. The “polluter pays” principle adopted in the 1990s is no longer federal policy, and financial incentives to improve environmental performance have been rolled back.

The capability of the MNR to manage and coordinate its many functions has been further weakened by the massive drain of conservation professionals from the MNR system throughout the country in the course of regular lay-offs. Major signs of deterioration in overall environmental protection system are:

- Backlog in environmental protection legislation since 2000. A weaker Environmental Protection Code was adopted in 2002 and many forestry laws are currently being considered. Adoption of key conservation-oriented forest and water resources legislation has been on hold for several years.
- Decrease in number of enforcement staff, enforcement activities, and citation of environmental violations (see Exhibits II-11 and 12 on the next page).
- Decrease in environmental impact assessments undertaken by MNR at all levels.
- Standstill in the growth of *zapovedniks*, national parks, and other protected areas at the federal level despite the good number of areas planned for protection with regional authorities.
- Delay in updating the first National Report on Biodiversity Conservation conducted in 1997 and updating the Red Book of threatened and endangered species (preliminary figures from the Institute of Water and Ecological Problems indicates a sharp increase in the number of species that should be listed for the Russian Far East).
- Weakened monitoring capacity as demonstrated by the paucity of official data available for the present assessment.

Regional governments (*oblasts*, *krai*, and autonomous republics) also have responsibilities for biological resources management and protection and in some cases have become the most

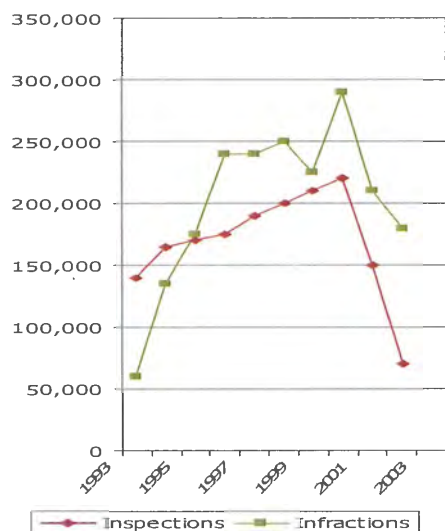
important actors in advancing conservation efforts in response to the decline of federal priorities in these areas. Despite administrative ambiguities, regional governments have enacted laws, defined policies, detailed management and enforcement procedures, and increased staff size. Regional authorities who have been receiving upwards of 50 percent of forest and mineral royalties and taxes have expressed concern as the federal government loosens fiscal controls, tightens its grip on policy and decision-making, and cuts revenue-sharing to the provinces. As late as 2003, many regional governments still collected royalties and taxes from natural resource uses and fees from environmental

infractions, although it was no longer encouraged by the federal government. For example Khabarovsk Krai created two new divisions in its Ministry of Natural Resources to make up for capacities lost through the dissolution of federal environmental agencies. The regional ministry is staffed with 20 enforcement officers, who collected more

than three million rubles in pollution fees and other environmental payments in 2003. It was also instrumental in setting up the Interregional Committee for Sustainable Development of the Amur River Basin, which brings together six provinces and four federal agencies to develop and coordinate environmental policies and programs. It also supervises the regional office of the Forestry Department, responsible for forest lease agreements, and has set targets for concession-holders to install processing facilities. The share of logs processed locally rose from 14 to 16.5 percent between 2002 and 2003.

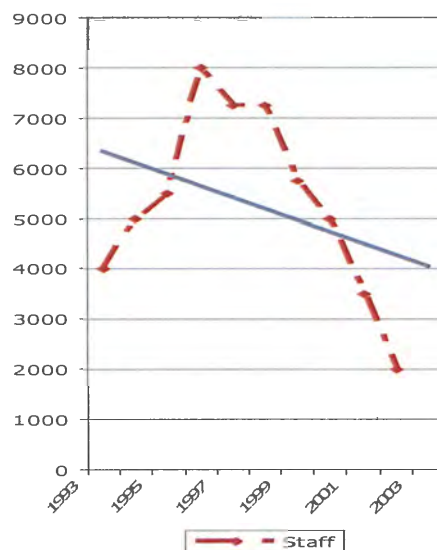
Conservation policy seems to be going through another period of uncertainty. Regional oversight of natural resource conservation will probably suffer additional setbacks if the most recent administrative reforms proposed by President Putin come into force. The 140 laws now being rewritten could have harmful consequences for the forest, fishery and wildlife resources, which sustain many rural populations. The Forestry and Environmental Departments may further be downgraded in status within the MNR. Drafting of the new Forestry Code has been controlled by the central government with little consultation with regional governments. As a result, distrust and suspicion of federal motives run high. A similar scenario relates to policy and legislative reforms related to water resources, which could have important consequences for municipalities. The pall cast for reform of these laws has led to confused and conflicting stewardship mandates,

Exhibit II-11. Number of Environmental Enforcement Staff



SCEP, 2004

Exhibit II-12. Environmental Inspections and Reported Infractions



administrative paralysis, and worsening management. Numerous officials and private individuals involved in conservation repeatedly expressed their concern over unclear lines of authority.

G. Nongovernmental Organizations³⁶

Russia has an important and extensive network of environmental NGOs working toward biodiversity conservation. NGOs are important players in conservation in Russia, fulfilling key roles in public education, public advocacy and defense of civil rights related to resource use and environmental protection, planning, project implementation, monitoring, and international and transboundary issues. The scope and importance of their role has grown as government capacity declines and democratization, decentralization, and transparency suffer blows. Frequently, NGOs are the only groups standing between obscure decision-making by officials, flagrant flaunting of laws and procedures by private companies, and detrimental consequences to the environment.

There are numerous examples of how Russian NGOs have been successful in bringing environmental problems and corruption to the attention of the national and international public, using laws and regulations to effectively block non-compliant projects and defend the rights of local groups against large private interests. Efforts by local and regional groups are often supported by a network of more than 800 national environmental NGOs, some affiliated with international groups.

The national NGO, Ecodal is a case in point. Affiliated with the international Ecojuris and funded by the Rockefeller Brothers and Hewlett-Packard foundations, Ecodal works in the Russian Far East to ensure rigorous application of environmental laws to development projects and private investments whereby the environmental rights of local communities are protected and public participation takes place. By raising public awareness about permitting procedures, environmental regulations and requirements for public hearings, Ecodal assists local communities in seeking legal recourse in cases of non-compliance. Armed with a staff of only two lawyers, Ecodal found that 10 percent of all logging operations in Primorski Krai operate without management plans and 50 percent lack environmental assessments as required by law. At the time of the team's visit, Ecodal was assisting with 50 lawsuits pending in Khabarovsk and Primorski Krai brought by local communities, and had successfully worked with an NGO and private oil company in Sakhalin to protect a critical wildlife refuge. With its experience, ever-increasing workload, and limited resources, Ecodal is changing its strategy from one of direct intervention to training a corps of lawyers in environmental law, preparing a public manual on environmental rights and community action, and pursuing negotiated conflict resolution as in the case of the Terneyles Stroy forest operation in the Samaga River Basin.

Regionally based and issue-specific NGOs have grown in number. The Bureau for Regional Outreach Campaigns (BROC) in Vladivostok is a key organization monitoring the harvest and trade of forest and marine resources in the Russian Far East. The Wildlife Protection Center focuses on habitat conservation for mega-fauna such as the Amur tiger and specializes in public outreach through the production of documentaries and publication of a conservation magazine. The roster of NGOs supported through the USAID ROLL project cover a wide gamut of

³⁶ Much of the following discussion is based on personal communications from interviews conducted by the assessment team.

interventions from assisting communities in eco-enterprise management to municipal planning and protection of biosphere reserves.

At a national level, there have been numerous attempts by NGOs to re-establish an independent environmental agency following abolition of the SCEP. In 2000, a coalition of leading NGOs, “For Nature!” initiated a national referendum on environmental matters. One of the issues raised was imports of nuclear waste and reestablishment of independent forestry and environmental agencies. The coalition collected 600,000 more signatures than the 2 million required to put the referendum on the ballot, but the Central Electoral Commission in Moscow invalidated significant numbers and prevented the referendum from taking place. The coalition’s challenge to the Supreme Court failed, and the case continues in European Courts. The following year the Duma amended the federal referendum law to prevent such civil initiatives in the future.

In 2003 and 2004, a massive public awareness campaign was launched to ensure public oversight in preparation of the new Forest Code. An NGO coalition called the “Forest Club” has been especially skillful in public critique of numerous drafts of the law as well as in bringing the discussion to key timber-producing regions and involving authorities and forest service officials. This partly explains why debate continues over the new law.

Several international conservation NGOs have chapters and local offices in Russia and make an important contribution to policy development, local management, research, and monitoring. They also play an important role in publicizing Russia biodiversity activities at a global level. For example, the country office of The World Conservation Union has been following the preparation of the new Forestry Code. The WWF regional office for the Russian Far East has

Lake Baikal

Perhaps nowhere in Russia have passions, uncertainties, and intrigue between environmental and development interests been more intense than over Lake Baikal. The debate over the future of the lake exemplifies the government’s inability to monitor biodiversity and enforce environmental laws and its growing distaste for groups that advocate for stronger protection.

As the world’s biggest single body of fresh water, Lake Baikal’s annual freezing and thawing drive thermal mixing all the way down to its bottom, 1,637 meters (5,371 feet) deep, bringing oxygen to a rich mix of plants and animals, keeping the lake water so clean you can drink it. Lake Baikal Basin is an outstanding example of the evolutionary development of a rift zone of global scale and includes contrasting landscapes of mountains, forests, steppes, tundra, and lake. It contains the most ancient and largest freshwater reservoir on Earth, and 80% of the aquatic fauna is endemic.

The NGO Baikal Environmental Wave has argued against a pulp-and-paper mill that pumps effluent into the lake, reportedly killing some of the freshwater seals unique to Baikal. Federal security services raided its office, looking for “classified maps”; articles about “green spies” popped up in the local press. The mill is being cleaned up, but scientists disagree about the long-term damage due partly to the post-Soviet shortage of funding for monitoring the lake. Some say there’s been an impact from pollution while others argue that the increase reflects no more than the background level in other regions, like the Arctic.

Now there is a new threat. A pipeline from the oilfields near Angarsk, said to be as big as Kuwait’s, is planned. The original route to Daqing in China would have curved around the southern end of Baikal, cutting across 59 of its tributaries in a highly seismic region—141 years ago, 200 square kilometres (77 square miles) of lakeshore sank under water in an earthquake. The impact study acknowledges that there is a “quite real” possibility of the pipeline rupturing and oil reaching the lake, but no contingency plan for oil spills was included. The southern route has been abandoned following environmental protests and reconsideration of geo-strategic interests. A northern route will now link Eastern Siberia and the Pacific coast and diversify Russian oil exports to Asia-Pacific countries and America’s West Coast. The 4,200 km new route also crosses environmentally sensitive and seismically active areas, but in contrast to planning for the prior route, technical and environmental planning have been more comprehensive and open public discussions have been organized.

— Adapted from articles in the *Economist*, 2002 and *RIA Novosti*, September, 2004

been a driving force in seeking ways to strengthen cross-border collaboration between Russia and China on conservation and development of important transboundary issues such as the Amur River basin and Lake Khanka.

Russia has become an increasingly difficult place for environmental advocacy groups, particularly over the last three years. Given the present political climate in Russia and the influence of NGOs, it is not surprising that many vocal environmental NGOs struggling to prevent deterioration of environmental governance now find themselves under attack. A mix of business interests, criminal activity, and government mistrust has made matters worse. Some observers believe that the continuous bureaucratic shake-up in the environmental and natural resources sectors stems from pressure from powerful business interests abetted by powerful government officials who argue that green regulations are blocking development and that conservation is for rich countries.

According to information collected by the team and reports in the press, many environmental groups feel under pressure from the federal government, and believe they are increasingly viewed as a menace. Some members of these groups have been arrested and then released.

Some groups have been subject to threatening financial audits, allegedly ordered by the federal prosecutor's office. Fears of new legal obstacles and bureaucratic requirements, especially for groups that receive grants from abroad, are being realized. Official rhetoric over "good" NGOs and "bad" NGOs has intensified. Amendments to NGO registration procedures are under consideration by the Duma that would make it more difficult for out of favor NGOs to be legally recognized. Fewer independent media outlets and higher costs are limiting access by environmental NGOs to public airways.

"The Putin Administration's recent harassment of certain media outlets and NGO leaders in the RFE serves as a reminder that these civil liberties are by no means assured and must be continually championed."

— Josh Newell, 2004
The Russian Far East

Reference Guide for Conservation and Development

Funding opportunities for environmental NGOs are dwindling. Many international foundations and bilateral agencies that previously had special environmental grant-making programs stopped financing them. Domestic donors and patrons that emerged in the late 1990s are more reluctant to support advocacy work by NGOs after several high-profile crackdowns on private companies and wealthy individuals. Presently the federal government is preparing "clearinghouse" procedures that will allow authorities to screen grant-making done by NGOs and search out undesirable activities. The very financial sustainability of many NGOs could be further squeezed if proposed tax legislation goes into effect eliminating tax deductions for contributions to non-profit organizations.

In summary, while the environmental NGO community in Russia may have reached a critical mass, their ability to advocate, affect policy, and make significant contributions to conservation and more sustainable development has become more precarious over the last three years. This follows similar trends for NGOs in general in Russia³⁷. The significance of this role has become more critical in the last three years as government regulatory capacity declines and recentralization policies erode regional and local authority and decision-making over resource

³⁷ USAID, NGO Sustainability Index 2003.

use. A primary challenge for the NGO community will be how to strengthen networks and information sharing as well as internal management systems and new fund raising strategies.

H. Macroeconomic Environment and Cyclical Devaluation of Natural Resources

By many measurements at the macro-level, the Russian economy is surging at an unprecedented rate. Annual GDP is expected to grow at seven percent in 2004 and is forecast to stay above six percent for the foreseeable future. During the first half of 2004, investments in fixed assets grew by more than 12 percent, industrial output surged by more than seven percent, and according to the State Statistics Committee, real incomes rose sharply by nearly 10 percent³⁸. Moreover, domestic investments in manufacturing and construction topped \$7 billion in 2003 and there remain aspirations for WTO accession, possibly in 2005.

It is common knowledge that these gains are masked by regional urban-rural income disparities, swelling rural unemployment, and high inflation that pushed another nine percent of the population below the poverty line in 2003. By the government's own admissions, 50 million people, or one-third of the Federation's entire population, now live in poverty. Owing to a combination of workplace accidents (see box at right), declining health care systems, and exposure to environmental and infectious disease, Russia is losing more than one million people per year. Life expectancy continues to decline, now below age 60 for men.

Environment, Health & Worker Safety Crumbling in Russia

"Work-related illnesses, injuries and deaths cost the economy \$65 billion in 1999 alone," the [Health and Social Development Ministry] report adds, citing figures from the Federal Statistics Agency and the Economic Development and Trade Ministry. The report says accidents and a toxic working environment have meant workers in industries like coal, power, machinery construction and metallurgy have a mortality rate more than twice that in industrialized nations and higher than in many developing countries. "Unnatural death in the working-age population — from accidents, poisonings and injuries in manufacturing — is now at the same level it was in Russia 100 years ago."

— *Moscow Times*, August 24, 2004

Steady declines in agriculture production and closure of most natural resource-based enterprises offer reduced employment and income opportunities for rural livelihoods and have few of the social services afforded urban dwellers. Instead rural inhabitants must begin changing their resource use, find alternative livelihoods, or move to crowded cities. But beyond the mining and petroleum sectors, foreign direct investment has virtually ceased³⁹ in agriculture, forestry, and fisheries and the loss of 90 percent of Russia's value-added capacity in these sectors⁴⁰ ensures higher rural unemployment and an increasing dependence on the sale of raw materials instead of finished products.

All of these features are accentuated in resource-rich but population-poor Eastern Siberia and Russian Far East. Industrial capacity in the forest sector has declined since 2002 either from plant closures or serious decapitalization, just the opposite trend from the estimated \$35 billion in foreign direct investment needed to make the sector competitive.⁴¹ Comparable declines in the

³⁸ Interfax, "Russia's GDP growth could top official forecast of 6.9%," August 24, 2004.

³⁹ World Bank data.

⁴⁰ Newall, J., *The Russian Far East: a reference guide for conservation and development*, 2004.

Sheingauz, A., *Overview of the Forest Sector in the Russian Far East: Production, Industry, Problem of Illegal Logging* (draft), 2004.

⁴¹ Pan Atlantic Consultants, *The Timber Industry in Krasnoyarsk Krai: A Practical Market Assessment*, 2000.

fishing, processing, and canning capacity for fresh and near-shore fisheries have ceded these valuable resources to larger and underregulated Russian conglomerates and foreign interests with similar impacts on local employment and income.⁴² Inappropriate fiscal policies, corruption, high transfer costs, and recentralization are smothering needed investment in natural resources and destabilizing large areas both economically and ecologically. While some of these trends have relieved short-term pressure on Russia's forests, fisheries, and biodiversity, the unprecedented demand from Chinese markets and sharp reductions in Russian management capacity mean long-term and negative consequences for conservation.

I. Russian Far East — Special Consideration of the Amur River Basin

The Amur River is globally recognized for its conservation, economic, and political importance. With a watershed covering 1.8 million km² shared by Mongolia, China, and Russia, the Amur is one of the largest free-flowing rivers left in the world. From its headwaters in the Asian interior, the Amur flows more than 4,500 km to the Pacific Ocean through myriad landscapes of prairies, rich Korean pine-mixed broad leaf forests, steppe, and tundra. Along its length, the Amur and its tributaries nurture extensive wetlands that are the nesting and migrating sites for some of the world's most endangered species and spawning grounds for seven species of commercially valuable anadromous fish and two species of sturgeon, including the Kaluga, the largest in the world. With its surrounding forests, the Amur Basin harbors more than 5,000 species of vascular plants, 400 species of birds, 120 species of fish, and 70 mammals, among them the Amur tiger and Far Eastern Leopard. As a transboundary river basin, the Amur points to "sharp cultural, economic and demographic contrasts, where environmental problem-solving requires international cooperation."⁴³

Current trends and status of biodiversity conservation and natural resource utilization in the Amur Basin make a strong argument for a major transboundary initiative. During its debrief in Moscow, the assessment team found mission staff receptive to such an initiative, which dovetails well with the mission's regional vision for the 2005-2010 program centered where rural poverty is widespread and sustainable economic growth tenuous. The addition of a transboundary river basin initiative to USAID's portfolio centered on the Amur would directly address a number of U.S. strategic interests while conserving globally important natural resources.

Rural underdevelopment and poverty is leading to accelerated depopulation of the Russian Far East and tremendous demographic imbalances along the Russian-China border. Russia's population is decreasing by about one percent annually (see Exhibit II-13 on the next page) and this trend is even more acute in the Russian Far East. The whole of the Russian Far East has a population of just over seven million people in an area two-thirds the size of the United States (including Alaska). About half of this population lives in proximity of the China border. At first glance, this might seem to bode well for conservation; however, on the opposite side of the border loom more than 80 million Chinese, whose inflated dependence on and influence over Russia's natural resources is increasing.

⁴² Zgurovski, Konstantin, WWF, Personal communication, 2004.

⁴³ WWF, 2003. Our Amur.

The presence of vital natural resources is important to the eco-regional security and U.S. interests. The Russian Far East produces only about five percent of Russia's total industrial output, but it has a number of critical resources⁴⁴:

- About 75 percent of Russia's fish and marine products
- Almost all of Russia's diamonds, 50 percent of its gold, and 25 percent of its platinum
- Approximately 10 percent of all timber production, of which 90 percent is exported as logs, mainly to China
- Forty percent of Russia's total coal reserves and 14 percent of national coal production
- A growing percentage of Russia's oil and gas exports, the main engine of national economic growth with significant U.S. investment

Exhibit II-13. Russian Population Trends
UN Population Fund, 2003

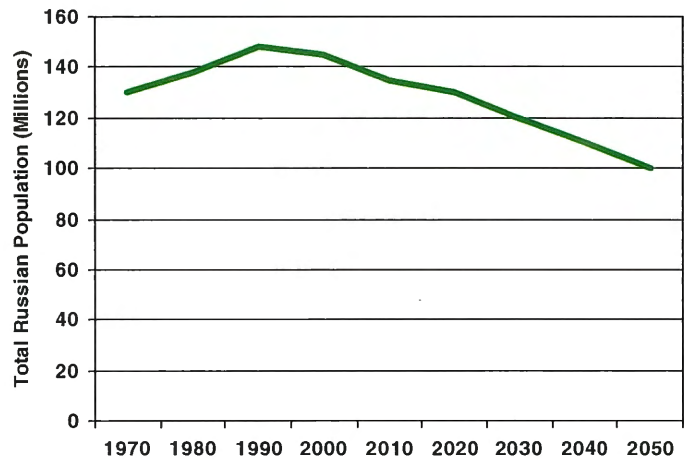
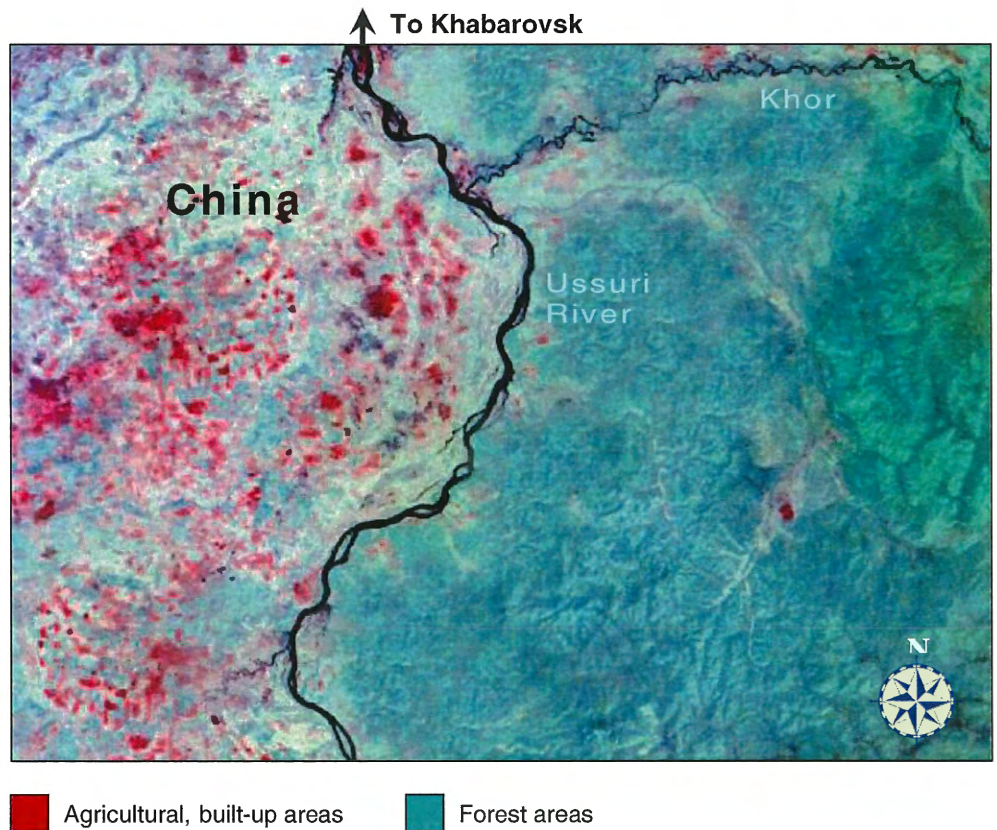


Exhibit II-14. Land and Resource Pressures on the Russia-China Border

Divergent economic development trends on the China-Russia border add to regional imbalances. Formal and informal Chinese investment and trade in largely unregulated resource extraction is exploding.

Log export volumes are outpacing total value, reflecting the undue influence of price pressures exerted by informal Chinese log buyers and the upsurge of illegal logging operations.⁴⁵

The impact of regional trade flows



■ Agricultural, built-up areas ■ Forest areas

⁴⁴ Cited from Newell, J., 2004.

⁴⁵ Lankin, A. 2004 (draft).

can affect the competitiveness of U.S. forestry and fisheries industries. Although most logs and fisheries resources exported to China from the Amur River Basin (and marine resources along the Pacific Coast) are destined for domestic markets, the sheer volume of harvests from unsustainable, unregulated sources can have a softening effect on global prices.

Concentration of globally valuable biological and economic resources, including large expanses of intact forests are at risk. Exhibit II-14 on the previous page illustrates land and resource pressures on opposite sides of the Russia-China border and consequent threats to biodiversity in the Amur River Basin. Forest cover in China has shrunk to 47 percent of its original total of 90 percent.⁴⁶ Discharge from unplanned industrial and municipal development, loose environmental regulation, and poor land uses in the Chinese part of the watershed cause health risks to downstream Russian populations and degradation of critical ecosystems.

⁴⁶ WWF, 2004.

SECTION III

Overview of USAID/Russia Program

In accordance with Section (d)\77\ Country Analysis Requirements of Part I, Section 119, Endangered Species, of the Foreign Assistance Act, which indicates that "Each country development strategy statement or other country plan prepared by the Agency for International Development shall include an analysis of (1) the actions necessary in that country to conserve biological diversity, and (2) the extent to which the actions proposed for support by the Agency meet the needs thus identified," biodiversity assessments generally examine a mission's anticipated strategy for the future period to assess and make recommendations regarding the future program's potential impact on issues of biodiversity conservation. Since the USAID/Russia 2005–2010 program had not yet been fully determined at the time of the current biodiversity assessment update, the team interviewed key USAID personnel in Moscow and in Washington at the beginning of the assessment to understand the likely future direction of USAID/Russia's programs.

Declining funding and substantial earmarks. There was general agreement that although future funding is precarious and likely to trend downward as Russia advances toward graduation, the mission will remain active throughout the period 2005-2010, and perhaps beyond. A significant portion of funding is earmarked (83 percent of the overall Mission budget in 2004) for specific activities, including \$4 million for the new independent print media program and a large, broad earmark of \$17.5 million for activities in the Russian Far East, including \$3 million for the America-Russian Centers (ARC) program managed by the University of Alaska at Anchorage. The magnitude of these earmarks represents a challenge for the Mission in planning a cohesive program. However, given their geographic and sectoral foci, these set asides present excellent opportunities for supporting biodiversity conservation in Russia, as described in more detail in Section IV, USAID's Program and Biodiversity Conservation.

Partnering to ensure an enduring legacy. A key feature of the Mission's ongoing strategy is developing and nurturing partnerships with other U.S. government agencies, donors, NGOs, and local groups, and promoting opportunities for professional exchanges, to maximize impact and ensure the lasting legacy of USAID programs in Russia. For instance, USAID will be supporting upcoming USDA-Forest Service/World Resources Institute (WRI) work focusing on Russian forest fire management, policy assistance, and forest monitoring. The Forest Service is also providing support to the Russia Forest Resources and Technologies (FOREST) project's October 2004 study tour to the United States. Given the Forest Service's ongoing efforts related to protection of the Amur leopard, Siberian tiger, and salmon, and work with the Tahoe-Baikal Institute to support the development of Lake Baikal ecotourism, there are valuable networks and bodies of knowledge to be leveraged from such partnerships. Similarly, USAID is ensuring participation by the FOREST project in the upcoming Forest Law, Enforcement and Governance (FLEG) ministerial conference being organized by the World Bank and supported by numerous multilateral and bilateral donors, focused on combating the threat posed to forests by illegal logging and trade, corruption, and poaching.

Increased regional focus. A significant portion of the Mission's funding is earmarked for activities in the Russian Far East. This reflects a growing interest in regional development activities, particularly in poor, rural, resource-dependent regions. As it is not expected that the Russian Far East will be the sole focus area for regional activities, in August 2004, as part of strategic planning for the upcoming period, the Mission conducted an internal exercise to consider overall potential geographic priority areas for future programming. The informal result was a map indicating the 20 regions of most critical interest. While the top 20 included regions throughout the country, the regions ranked by USAID/Russia staff to be of highest priority in general happened to coincide with areas of highest biodiversity concentration — in the south and in the Far East. Thus, an ongoing regional focus may naturally provide more opportunities to support biodiversity conservation. Creation of a regional initiatives office is planned to coordinate activities at this level.

Lower priority to conservation. The Mission indicated that no future activities are planned to specifically address biodiversity or broader environmental management. The economic development pillar would no longer include a stand-alone environmental resources SO as in the program now ending (SO 1.6). The FOREST Project and Replication of Lessons Learned (ROLL) project are scheduled to conclude in 2005 and decisions on possible follow-on actions were still being decided. Consequently, it appears likely there will be a further decline in USAID's contribution to conservation in the next cycle. This is noteworthy given the importance of biological resources to the Russian economy and ominous institutional, policy, and resource utilization trends with a direct bearing on employment, local rural communities, international trade and regional stability, particularly in the Russian Far East where high biodiversity values are at high risk.

An evolving portfolio. The Mission and its overall program have been undergoing reorganization in response to changing political and economic realities. In 2002, nine strategic objectives were organized according to four general themes: economic restructuring, democratic transition, social transition, and special programs. At the time of the assessment update it is uncertain whether any strategic objectives, as previously defined, will continue to exist. However, it is expected that resources will be directed to the four strategic sectors discussed below.

A. Health

While the Primary Community Health Partnerships and Healthy Russia 2020 programs are currently scheduled to continue through 2006 and 2007, respectively, the overall USAID/Russia health portfolio is refocusing from general health issues to more specific health problems, such as combating critical infectious diseases, including tuberculosis and HIV/AIDS. While a certain percentage of the Health Office's budget will be focused on activities in the Russian Far East, most resources will be targeting areas of higher population in the west, where these diseases are having the most serious effect. The programs are currently expected to continue through 2009.

B. Democracy and Governance

USAID/Russia democracy and governance programs will continue to bolster rule of law, civil society, advocacy and awareness, with an emphasis on targeted, bottom-up programs at the local level. The trend is to keep going deeper at the local level, with local organizations determining

priority issues. Fewer activities supporting the development of political parties are expected. The Civic Initiatives Project (CIP) and Third Sector Advancement Program will continue through 2006 working to encourage citizen participation and development of NGO resource centers to support community action, while the Public-Private Partnerships Against Corruption will continue promoting anti-corruption activities in selected regions for the next eight months. The Independent Television program is scheduled to continue at least through 2008, and a contract for a new Independent Print Media project has just been awarded. The emphasis will be on training journalists and developing the business side of media outlets. Given the current environment, the overall D&G program is expected to continue beyond 2010.

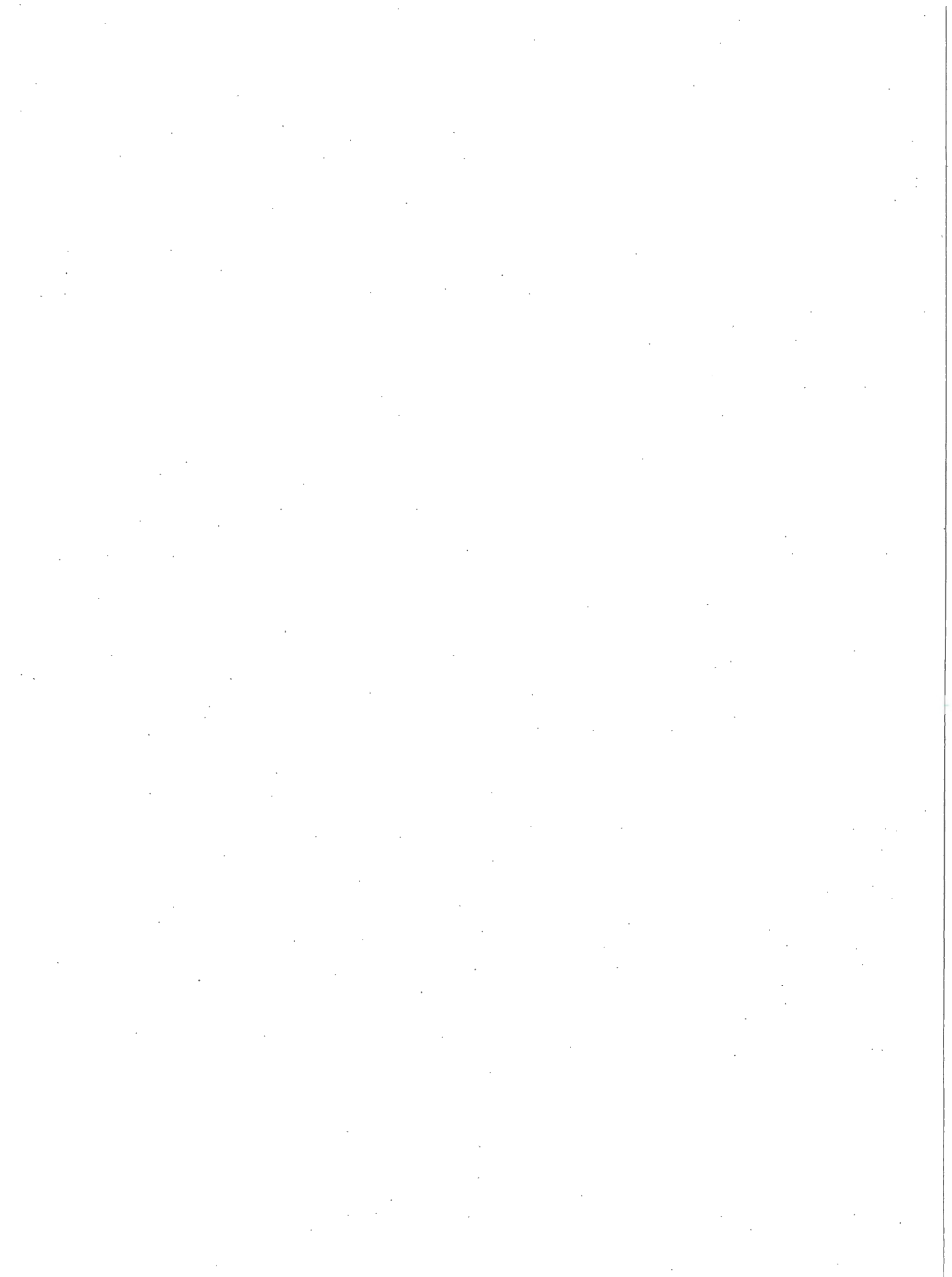
C. Economic Development and Regional Initiatives

Freedom Support Act (FSA) funding for economic development programs is currently expected to phase out, continuing only through 2006/2007. Ongoing activities are likely to continue, potentially under a "Regional Initiatives" program, with a regional focus primarily on poor, rural, resource-dependent areas. Programs in this portfolio, such as the current SME Policy Advocacy and Enhanced SME Development for the Russian Far East programs, will continue to concentrate on promoting the development and growth of small and medium enterprises. The Strengthening Russian Economic Think Tanks (SETT-2), Intergovernmental Fiscal Reform, and Economic Policy Reform activities are slated to continue through 2007. Under the Development Credit Authority (DCA) program USAID has signed two bank-specific loan agreements since 2000 and one or two more are in process. The DCA program is scheduled to continue through 2008, but due to ongoing complications, the possibilities of terminating, clustering by regions, and refocusing on sectors instead of banks are being considered. Financial support for The U.S.-Russia Investment Fund (TUSRIF) will continue to be provided through USAID for one more year, after which time the fund will begin selling itself off.

The portfolio now also includes local government programs and, notably, the two USAID/Russia projects currently most directly supporting conservation of biodiversity: ROLL and FOREST. It appears that ROLL is moving toward becoming more of a civil society project, and is likely to be extended an additional three to four years from its current end date of November 2005.

D. Special and Cross-cutting Programs

USAID continues to fund an array of activities that cannot be attributed solely to one strategic sector. These activities give USAID the flexibility to respond quickly to changing needs, finance activities that cut across multiple objectives and enhance the linkage among sectors, and support analysis and strategic planning. The major cross-cutting program expected to continue into 2006 is the U.S.-Russian Far East Partnerships program, which addresses rule of law, professional association strengthening, SME development, environmental advocacy, good governance, and social and economic infrastructure development through the development of partnerships and promotion of international collaboration between businesses and organizations.



SECTION IV

USAID's Program and Biodiversity Conservation

A. Overview

The USAID/Russia current program, which concludes at the end of 2004, is a complex and dynamic mix of activities designed to support Russia's transition to a democratic, market-led economy. Given uncertainties about the final priorities of the future country plan at the time of the assessment, the team instead looked at current program activities that will most likely continue into the next cycle in the context of the broader program as described by the Mission and presented in Section III.

Experience has shown that stand-alone biodiversity programs are more effective when they are integrated into broader facets of civil society and economic development. The team, therefore, has taken an integrated approach to how USAID/Russia can contribute to biodiversity going forward. In the team's view, the 2005-2010 USAID program could help address critical conservation needs, but they must be more geographically convergent and deliberately targeted on conservation issues if the mission wants to have a significant impact in this area.

To conceptualize how USAID/Russia could more fully incorporate biodiversity conservation into its programs and projects as a cross-cutting theme, a framework is proposed in Exhibit IV-1 and illustrates the clear linkages between each of the main program components:

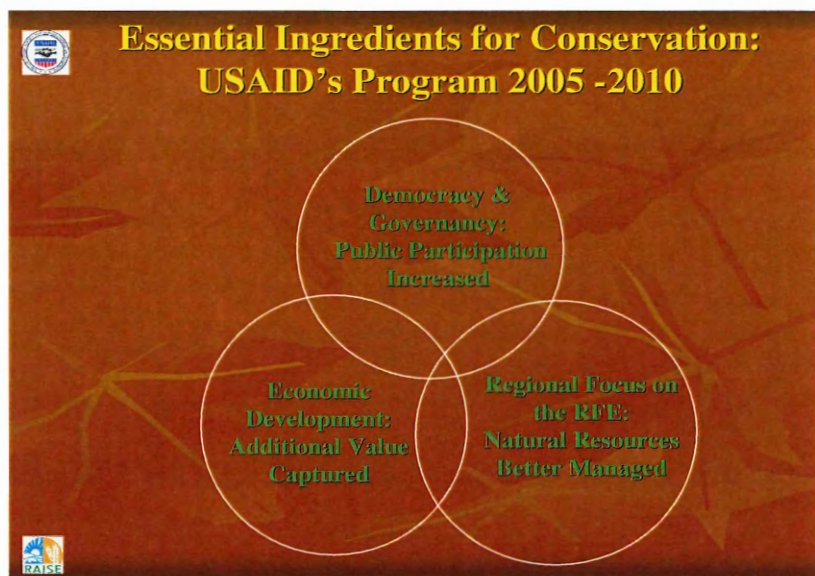
Democracy and governance

- Raise awareness of laws, regulations, rights and responsibilities
- Strengthen effective local advocacy
- Foster more transparent disclosure of resource allocation decisions
- Open access to avenues of recourse

Economic development

- Open avenues to know-how to enable enterprises to employ best practices and capture more value from harvested biological resources
- Channel capital and management skill development to businesses willing to work toward an acceptable level of environmental due diligence

Exhibit IV-1. Summary of Select USAID Portfolio Components in Relation to Biodiversity Conservation



- Provide information on market and investment opportunities tied to international certification and standards systems
- Assist municipalities, utilities and financial institutions to integrate natural resources into broader land use and investment plans

Regional initiative in the Russian Far East

- Building on progress under FOREST, introduce best management practices in a broader natural resources management context
- Support interdepartmental planning in natural resource conservation, environmental monitoring, investment promotion and regulatory enforcement

As depicted in Exhibit IV-2 below, many projects already contribute, directly and indirectly, to biodiversity conservation. Development of small and medium enterprises in the Russian Far East

Exhibit IV-2. Summary of Select USAID Portfolio Components in Relation to Biodiversity Conservation

USAID Programs	Current end date	Public awareness and advocacy	Conservation best management practices	Business development and investment
Economic Development				
Replication of Lessons Learned – ROLL	11/2005	D	D	D
Forest Resources and Technologies Project- FOREST	7/2005	D	D	D
SME Policy Advocacy Program	9/2005	P	P	D
Enhanced SME Development for the RFE	8/2006		P	D
Investment Strategy for Selected Regions	9/2006		P	D
Microfinance Sector Support Programs	9/2006			D
Development Credit Authority Program	9/2008		P	D
Economic Policy Reform	6/2007		P	I
Intergovernmental Fiscal Reform	8/2007		P	I
Strengthening Russian Economic Think Tanks	10/2007	P	P	I
Business Practices for Youth (Junior Achievement)	8/2005	P		I
Deregulation Implementation Monitoring Survey	9/2005	I		I
Alaska-Chukota Development Program (ARC)	8/2005	P	D	D
American Business Center (ABC) Sakhalin	1/2007		P	D
Democracy & Civil Society				
RFE Civic Initiatives Project	8/2006	P	P	P
Independent Print Media Program (new)	9/2007	P	P	
Independent Television	5/2008	P	P	
Strengthening Grant-Making Capacity	9/2006	P	P	
Improved Local Governance and Economic Development: Transition to Smart Growth	9/2005	P	P	I
Institutional Capacity-Building Program	4/2005	P		
Democratic Institutions Strengthening	9/2005	I		I
Democratic Leader Training	7/2006	I		I
Public-Private Partnerships Against Corruption	6/2005	P	P	I
Health				
Healthy Russia 2020	9/2007	P		
Primary and Community Health Partnerships	12/2006	P		
Regional Initiatives				
U.S.-Russian Far East Partnerships	3/2006	D	D	D
<i>(D) Direct impact on biodiversity conservation; (I) Indirect impact on biodiversity conservation; (P) Potential impact on biodiversity conservation</i>				

will undoubtedly be based on direct (forestry, fisheries, trophy hunting, and fishing) and indirect (tourism) consumption of natural resources that aims to improve local management. Democracy and governance initiatives at the local level can offset centralist tendencies and corrupt practices by helping NGOs, rural communities, and municipal governments better understand their legal rights and responsibilities, participate in resource and land-use decisions, and open avenues of recourse. USAID activities in other areas such as independent print media, U.S.-Russia Investment Fund (TUSRIF), America-Russian Centers (ARC), American Business Centers (ABC), regional investment strategies, Partnerships Against Corruption, and USDA Forest Service cooperative agreements, also provide many opportunities to contribute to natural resources conservation.

B. ROLL and FOREST Projects

Two projects in the current USAID Economic Development SO portfolio have a direct impact on biodiversity and are particularly noteworthy for their impact. The Replication of Lessons Learned project (ROLL) and Russia Forest Resources and Technologies (FOREST) project are described below.

B1. ROLL

Working through mostly grassroots public, private and nonprofit organizations through the award of competitive grants, the project was viewed favorably by everyone the assessment team met. ROLL's guiding principles of partnership, replicable results, well-honed implementation strategy, well-defined priorities, and wide geographic coverage appear to be having significant impacts locally in natural resources management, raising public awareness, preventing pollution, and encouraging eco-friendly small enterprises. Since its inception in 1996, the ROLL project has awarded more than 330 grants totaling \$9 million to organizations in 77 Russia's 89 regions, making ROLL the only project in USAID's portfolio that addresses conservation and environmental issues with almost national coverage. During the past six years ROLL has implemented more than 80 projects that have produced concrete results in the field of biodiversity preservation through a multisector perspective. The following provide examples of how ROLL projects have had a positive influence on biodiversity conservation:

Timber and non-timber forest products. ROLL has implemented 10 projects under this category that relate to biodiversity. A ROLL project supported the reclamation of bog areas for the production of cranberries. The cranberry project involved replenishing former wetlands for cranberry production that had dried up following harvesting of peat. Besides providing the added benefit substantial economic benefit from the sale of cranberries, an additional benefit has been the restoration of critical resting and feeding habitat for rare migratory birds.

Eco-tourism. The ROLL program implemented more than 20 projects on eco-tourism with a large positive effect on biodiversity conservation. For example, ROLL supported a system of eco-tourism projects that created a nature trail around Lake Baikal. The association that created this system included an educational component about the natural world around Lake Baikal. The system of trails provided designated camping areas, providing an opportunity to educate people about Baikal and its biodiversity. Budding tourism has boosted the economic base of this depressed area, thereby gaining the cooperation of local administrations and local communities.

Nature conservation areas. More than 20 projects have been implemented in conservation areas by fostering working relationship among scientists and administrators. In an area outside of Moscow a large Nature Conservation Area (NCA) was created by three community groups that worked together with municipal officials. Three municipalities combined efforts to create the NCA around three lakes, and has been a model of coalition building for biodiversity conservation.

Endangered species. The ROLL project has implemented 15 projects that deal directly with endangered species by bringing scientists, administrators and local communities together. For example, ROLL united policy-makers and biologists in the Republic of Kalmykia in 2002 when the saiga antelope was placed on the IUCN Red List of Threatened Species as a “*wild animal on the verge of extinction*” as its numbers decreased by more than 90 percent over the past five years despite a ban on hunting. The ROLL project engineered the development of a strong relationship between the Government of Kalmykia and a newly created wildlife center dedicated to saving the saiga antelope. In 2005 the wildlife center plans to make its first release of antelope back into the wild and has earned the gratitude of the Republic of Kalmykia government.

UNESCO. Beginning in 2003, UNESCO and ISC have collaborated on approaches for the protection of biosphere reserves in Russia. A joint project utilizes ROLL methodologies to implement projects that focus on reducing pressures on biosphere reserves located throughout Russia. A first round of grants tested alternative models, leading to additional projects the following year. In total, ROLL and UNESCO have implemented nine projects, including the Kerzhensky Reserve Success Story. Project activities included a contest among libraries, schools, and forestry training centers for the best project for the biosphere reserve Nizhegorodskoye Zavolzhye located in a remote northern area of Nizhny Novgorod Oblast where local schools are the only centers for environmental activities. This has in turn motivated students to undertake a host of conservation measures: Bolshoye Ivlevo settlement in Voskresensky Raion oversees the Zhuravliny (Crane) Reserve; those in Shaldezhd settlement in Semyonovsky Raion clean the banks of the Kerzhenets river and replant oak seedlings; students in Aryino settlement in Urensky Raion have laid an environmental trail near their settlement. The lack of environmental periodicals, special literature, and permanent methodological support of their environmental initiatives were motivating factors for teachers to take part in the Nizhegorodskoye Zavolzhye Biosphere Reserve activities which, in turn, assisted educators in acquiring equipment and methodological materials on environmental education.

B2. FOREST

FOREST is working directly with the Ministry of Natural Resources and the Centers for Forest Protection to raise awareness and develop advocacy for fire prevention, as well as in utilization of GIS, pathological mapping, and pheromone traps for preventing pest outbreaks. FOREST's work at the federal level has also addressed national coverage of environment and conservation issues. In addition, FOREST has generated interest with the Ministry of Energy regarding its Biomass program and utilization of the co-generation model employed in Igirma Tariku with the help of FOREST. The project has been a platform for coordinating and communicating with the Ministry on upcoming policy and needs in the sector.

Involvement of regional governments has created strong interest in activities supported by FOREST project by local regional administration and the federal government, particularly in the RFE and Siberia. The Fire Prevention, NTFP and Biomass programs, in conjunction with wood processing, are highly viewed by these representatives. As part of its Fire Prevention program FOREST has creatively used television and other mass media to raise public awareness on ecological and conservation issues. After FOREST's assistance with NTFP policy in Khabarovsk, both Sakhalin Oblast and Krasnoyarsk Krai are looking to use this document to move in a similar direction. FOREST has done some training in Organic Certification for NTFP in the RFE, and also brought NTFP firms to the United States to learn about certification.

Massive outbreaks of forest pests can have dire biological and economic consequences on a huge geographic scale. In 1999–2003 between 12–19 million hectares of forest were attacked by the Siberian Gypsy Moth resulting in total mortality on two to four million hectares of forest. The Pest Monitoring component of FOREST, run through the Centers for Forest Protection of the Russian Federation, is critical to detecting outbreaks in their early stages when preventative and treatment measures are most effective.

Support to NGOs and schools are another area where FOREST has been active. Under its Fire Prevention component, training teachers and students has helped engage a wider audience in environment protection and conservation. While FOREST is not directly a “Democracy and Governance” project, it has, however, had impact in this area by building capacity and grass roots democracy and advocacy with young students. Likewise, the FOREST project has been coordinating its work with local administrations and groups to set up assistance funds that benefit indigenous peoples. This model could be employed in other USAID programs.

C. Economic Development: Extraction, Processing, and Trade of Biological Goods

Current extraction patterns from biological and non-renewable resources are unlikely to change until policy distortions are removed and markets prices begin to include costs associated with more sustainable management. Nonetheless, it is likely that Russia's agricultural, fisheries, and forestry sectors will increasingly be subject to extra-governmental forces that reflect concern for environmental health, including conservation of biodiversity. These forces include bilateral and multilateral trade agreement, importing country regulations, and market forces driven by consumer demand for products that are sourced in an environmentally sustainable manner. Support to enterprises in meeting the requirements for environment, health and safety management systems can be an important input for stimulating better practices through environmental competitiveness.

These trends and values merit review to understand how they may affect future management, business and investment practices of natural resource-dependent Russian sectors. Competitiveness in international trade and biodiversity conservation could both be enhanced by enabling SMEs and larger companies to more fully comply with these extra-government and market-driven requirements. Most of the enterprise development, loan, and investment projects and programs in USAID's economic development portfolio are well-positioned to provide such assistance through their ongoing activities. Furthermore, encouraging compliance by Russian firms would “level the playing field” with U.S. competitors. The more important trade

agreements and market-driven standards having environmental and conservation stipulations that will increasingly impact Russian exports are briefly described below.

C1. European Commission Union Directives

Several recent European Commission directives have begun to encourage public agencies to change contracting and procurement policies to include environmental considerations in technical specifications selection, award criteria and determination, and contract performance clauses⁴⁷. These will have an indirect effect on Russian companies and agencies that export products. Many companies in European Russia selling raw or semi-finished forest products into Europe have already begun to feel the pressure to meet these sourcing criteria. If Russian producers hope to trade with EC members states they will have to come into compliance with applicable

directives and regulations. USAID could be instrumental in assisting producers in meeting these requirements.

Exhibit IV-3. Summary of EC Environmental Legislation Affecting Natural Resources

SECTOR	Directives	Regulations	Decisions	Total
Air Quality	18	1	10	29
Waste Management	17	3	8	28
Water Protection	11	0	1	12
Nature Protection	4	6	1	11
Industrial Pollution Control	6	2	7	15
Chemicals & GMOs	8	5	4	17

An example is the Environmental Liability Directive that has begun handing down environmental responsibilities directly to polluters. By forcing member states to begin adopting the “polluter pays principle,” this directive aims to hold operators whose activities have caused environmental damage financially liable for mitigating damage. It is expected that this will result in an increased level of prevention and precaution. In addition, the directive holds those whose activities have caused an *imminent* threat of environmental damage liable to taking preventive actions. While this currently only directly affects EC member states, it has already begun to trickle down to neighboring states seeking accession and likely to discriminate in the trade of timber and non-timber products.

C2. Environmental Requirements of Multilateral Trade Agreements

Globalization poses significant opportunities and obstacles for Russian manufacturers. Russia’s accession to the WTO would pose additional dilemmas with regard to market access. There are strong reasons to believe that some Russian natural resource-based exports, particularly fisheries and forest products, could be subject to challenge under WTO rules, which allow countries to bring claims of “dumping” when harvesting such products exceeds sustainable levels or is conducted using practices that significantly damage natural environments. Current trade disputes between the United States and Canada, and the United States and China, over wood products and furniture, respectively, are based on questions of sustainable harvest practices. Trade in Russian timber and non-timber forest products sourced from unmanaged areas or by illegal means could become a barrier to entry in some markets and provoke punitive trade sanctions.

⁴⁷ Directives 2004/17 and 2004/18 of the European Parliament establish procurement procedures for public utilities and for public service agencies, respectively. Both directives encourage bidding and award of vendors upon environmental criteria that may include biodiversity conservation features.

Collectively, multilateral, regional, and bilateral trade regimes could improve Russia's ability to participate in unfettered markets for both imports and exports of manufactured goods *if* Russia's manufacturers are prepared to compete under increasingly stringent international environmental and sustainability criteria and rules. This will be particularly important for natural resource-based industries such as forestry, agriculture, fisheries and mining. The current dearth of processing capacity could increasingly limit the ability of Russian resource-based industries to compete under such conditions unless capital investment and the management capacity increase. In this regard, the assessment team believes USAID has a unique opportunity to assist Russian companies through its various credit, SME, policy reform and investment promotion projects and programs.

C3. Market-driven Standards for Environment, Health, and Safety

Closely complementing environmental standards promoted by governments and extra-governmental bodies is the growing importance of certification initiatives driven by growing consumer concerns about the environmental impacts, social consequences and safety of the products they buy. Private, voluntary standards for business-to-business transactions have moved beyond simple quality and safety concerns to now account for environmental impacts of resource harvesting and processing (see Exhibit IV-4). The application of certification and labeling systems is increasing felt in European markets and is showing increased momentum in the United States and Japan. Products including forest products, organic and conventional agricultural products, tourism, and manufacturing now have certification systems to effectively rate the environment, health, and safety practices of value chains.

Exhibit IV-4. Private Standards for Forestry, Agriculture, Tourism, and Manufacturing Affecting Conservation

Sector	Standard	Information
Wood Products and Forestry	Forest Stewardship Council (FSC)	www.fscoax.org
	Sustainable Forestry Initiative (SFI)	www.afandpa.org
	Pan-European Forest Certification (PEFC)	www.pefc.org
Organic Agriculture	International Federation of Organic Agriculture Movements (IFOAM)	www.ifoam.org
	European Organic Standard	www.europa.eu.int/comm/agriculture/qual/organic
Conventional Agriculture	Good Agriculture Practices Standard (EurepGAP)	www.eurep.org
Tourism	GreenGlobe 21	www.greenglobe21.com
	Blue Flag Certification	www.blueflag.org
Manufacturing Textile, Utilities, and Agriculture	ISO 14001	www.iso.ch/iso/en/iso9000-14000
	SA 8000	www.sa-intl.org

Many of these certification and labeling systems require that high-value conservation forests (or forests that harbor endangered species) be set aside for preservation. The systems also have specific provisions for protecting riparian zones and restrictions on conversion of new forestlands to the uses. They also prohibit trading in products that have been obtained illegally or under fraudulent claims and conditions. The Pan-European Forest Certification (PEFC) and Forest Stewardship Council (FSC) standards currently dominate the European marketplace for wood products. International Paper, the largest U.S.-based company operating in Russia has

begun certifying its processing plants in Sweden to the ISO 9000/14001 series and there are strong indications that the same will soon be applied to their Russian operations.

Similar third-party standards are being invoked in other industries involved in land husbandry, with potential effects on conservation practices. In both organic and conventional agriculture, buyers and brokers are working with larger grocery retailers like Ahold, Marks & Spencer, and other members of the British Retailers Consortium (BRC) and EurepGAP to see that concerns for food safety are paired with consumer interest on broader ecological issues.

Organic requirements are similar with respect to on-farm conservation. The International Federation of Organic Agriculture Movements (IFOAM) is stringent in its approach to the role of biodiversity within the farming system. It also requires that collectors of wild non-timber forest products ensure that the rate of collection does not exceed the average production potential of a given plant or area. Wild collected herbs, medicinal products (such as ginseng), and mushrooms are falling under IFOAM guidelines consistently throughout Europe and Eastern Europe. Russian traders could be effectively closed out of these markets if not prepared to meet these requirements

Numerous Russian firms are considering certification, but reliable information is lacking on systems requirements, implementing and certifying procedures the products, and chain-of-custody control systems and documentation practices. The transaction costs of certification remain high in Russia as weak demand for these services has stifled growth of service providers. Still, the team found increasing interest in forest certification, largely driven by Japanese (e.g., Sumitomo involvement in Turneles) and European buyers (e.g., IKEA and other firms buying furniture components). The USAID programs under the Economic Development SO could be instrumental in helping Russia overcome these obstacles to meeting international standards for environmental compliance. FOREST has already done work in this area with regard to non-timber forest products.

In sum, public and private organizations involved in forestry, agriculture, and even tourism today must consider more carefully their environmental performance if they are to maintain their market competitiveness. Much will depend on elevating awareness among Russian producers and government agencies, and helping to build national standard-setting capability. The team believes that USAID/Russia can have an important role in helping to transmit and reinforce these market-based signals for conservation through enterprise support activities under current and future programming.

FSC Principle #6: Environmental Impact

Forest management shall conserve biological diversity and its associated values, water resources, soils, and unique and fragile ecosystems and landscapes, and, by so doing, maintain the ecological functions and the integrity of the forest.

FSC Principle # 9: Maintenance of High Conservation Value Forests

Management activities in high conservation value forests shall maintain or enhance the attributes that define such forests. Decisions regarding high conservation value forests shall always be considered in the context of a precautionary approach.

EurepGAP Requirements for Environment and Conservation

- 4.1.1** A risk assessment for new agricultural sites, which shows the site suitable for food production, with regard to food safety, operator health, and the environment
- 13.2.1** A conservation management plan either individually or on a regional basis
- 13.2.2** A management of wildlife and conservation policy for the property

C4. Environmental Due Diligence Procedures

Thorough and systematic environmental due diligence in the context of routine risk assessment would ensure that client businesses are complying with ecological, social, and economic sustainability criteria as prescribed by national laws, international standards, and USAID environmental regulations. This would have the added benefit of better positioning these companies in Western and other markets that increasingly demand proof of origin or certification of products. It would also prepare these companies as Russia aspires to join the WTO.

Environmental risk analysis could be incorporated into overall “due diligence analysis” conducted by the LPG/DCE Due Diligence II program for business and financial institutions seeking to participate in USAID/Russia credit guarantee programs. This would make available critical information on the degree to which potential environmental impacts, liability risks and regulatory compliance is accounted for by these institutions as well as raise the awareness of financial institutions on how weak environment management and lack of knowledge of conservation concerns can affect the bottom line of companies they lend to. The highly successful Farmer-to-Farmer program could introduce best management practices that specifically speak to biodiversity conservation aspects of overall farm operations including agroforestry technologies, identifying and setting aside high conservation-value easements (wetlands, remnant prairies, native forests), and improving game habitat management.

Application of USAID environmental procedures across its program pursuant to 22 CFR 216 is one of the most fundamental ways the mission can deepen its contribution to biodiversity conservation and environmental competitiveness:

- Avoiding or mitigating potential negative impacts to biodiversity.
- Uncovering opportunities and synergies to improve environmental conditions and conserve natural resources.
- Assessing exposure to potential liabilities springing from development activities that may adversely impact protected areas, traditional natural resources claims, or public health.
- Preventing wasteful use of inputs and control pollution.
- Ensuring investments conform to end-market specifications.

Deepening environmental review of the mission’s program is a major task given its geographic reach, the large number of projects and implementing agents, and broad range to sectors. This endeavor could be made more manageable and operational by internalizing or flowing down explicit responsibility and procedures to project managers, lenders, borrowers, contractors, and grantees. Easily accessible screening tools for stakeholders could be developed and managers trained in applying environmental due diligence to loan and funding applications. The ROLL project could be a useful vehicle to horizontally integrate biodiversity conservation and environmental review across the USAID program.

D. Democracy and Governance

The Democracy and Governance Strategic Objective presents perhaps the widest window of opportunity for USAID/Russia to make a significant contribution to biodiversity conservation, natural resource management, and the lives of mostly poor, marginalized rural populations who

depend on natural resources. These communities should logically be the strongest champions for conservation. Armed with the necessary information, avenues of recourse and support to take action, grassroots action has shown itself to be a powerful force for change, even under pliable laws, corruption and government indifference.

Environmental NGOs are among the most forceful conservation advocates in Russia today. NGOs play critical roles in conserving biodiversity by mobilizing people to defend their rights against powerful interest groups and by supporting grassroots initiatives. They also help with regional and local planning, education, public advocacy, and monitoring and influencing policy. NGOs have shown a keen capacity to work with regional authorities, and some groups, like Eco-dal, have worked effectively through the existing legal system to force wider transparency, accountability, and remedial actions.

USAID has made a significant contribution to strengthening the capacity of NGOs in general. Nonetheless, the NGO movement, and environmental NGOs in particular, are being harmed by external pressures and internal deficiencies. The USAID 2003 NGO Sustainability Index⁴⁸ concluded that public space for civil society in Russia tapered in 2003, and a survey of Russian NGOs across sectors shows a general decline for most indicators since 1998. Erosion of the "financial viability" indicator is particularly worrisome. Funding for environmental NGOs declined after several high-profile national issues drew negative attention.

Many of the programs under the mission's Democracy and Civil Society Strategic Objective have great potential to increase their contributions to biodiversity conservation by raising the priority given to conservation NGOs under this SO during the 2005-2010 program. In this regard, programs operating in the Russian Far East, such as the U.S.-Russian Far East Partnerships and the Civic Initiative Program, could be particularly important in a region where NGO growth and sustainability has been less robust, biodiversity values are high, and the economy is more highly dependent on biological resource management. ROLL would continue to play a significant role through grants to local NGOs and civic groups for specific conservation and environmental activities. Support to NGOs that provide legal assistance to local communities would be a major contribution.

⁴⁸ USAID, 2003.

SECTION V

Recommendations

A. Review of 2002 Assessment Recommendations

The 2002 assessment proposed 14 recommendations to USAID in light of the nine strategic objectives of the USAID/Russia program at the time. These recommendations highlighted opportunities for integrating biodiversity issues into the Mission's general programs to help address significant biodiversity conservation needs in Russia while meeting the overall objectives of social and economic stability. The majority of the recommendations below remain valid and merit renewed consideration in the 2005–2010 program, as summarized¹ in Exhibit VI-1.

Exhibit VI-1. Summary of 2002 Biodiversity Assessment Recommendations

2002 Recommendations	Importance for 2005–2010 Strategy
USAID should examine how programs providing financial assistance to Russian businesses might affect biodiversity and consider how to incorporate biodiversity concerns in finance programs.	This recommendation offers the possibility of identifying activities and management options that enhance conservation, as well as insights into how USAID financing might lead to improvements in the environmental performance of businesses.
USAID should cooperate with think tanks to identify options for optimizing how federal and regional authorities divide responsibility over biological resources and the economic gains they provide. A program to promote adoption of the best options should follow the review.	Given trends to recentralize federal control and increasing turmoil within the Ministry of Natural Resources and regional authorities, this recommendation is even more urgent than in 2002.
USAID should work through think tanks and advocacy groups to promote transparency of government budgets, programs, and results in biological resource management. This program should initiate a dialogue to determine appropriate levels of investment.	Regions anticipate increased loss of revenue from local resources as recentralization accelerates. Improved awareness of biological resource valuation and distribution of benefits from different agencies may promote more appropriate levels of biodiversity protection and investment into renewable resources.
USAID should consider establishing pilot programs specifically supporting biological resource objectives in 3 to 4 oblasts and krai, including significant cooperation with regional government agencies.	This recommendation remains valid; however, given constraints facing the mission to fund biodiversity conservation going forward, a set of reformulated recommendations is presented below that are tied more directly to USAID's program for the new cycle.
USAID should review its natural resource portfolio to document its important contribution to biodiversity conservation and sustainable economic development over the past 10 years.	While not a high priority, compiling this information and annotating electronic copies of all relevant documents would be of significant value in ensuring that best practices and lessons learned are captured and made available. This will be particularly important if ROLL and FOREST do in indeed conclude in the near future.
Under the FOREST project, USAID should increase support for research on harvest practices in NTFP and promote use of methods that sustain biological diversity.	In light of the progress made under the FOREST project in documenting sustainable harvest practices, this recommendation should be modified to encourage continued support for adoption of legislation and enforcement policies that would encourage wide application of the same.
At the two-year mark, USAID should conduct an internal reassessment of the FOREST project given the cancellation of the World Bank project and the progress achieved under the main components. The	The policy and research components of FOREST became more focused around four primary components as a result of internal reviews by USAID and semi-annual reviews by the Russian Advisory Committee

2002 Recommendations	Importance for 2005–2010 Strategy
reassessment should identify adjustments needed to promote integration among the various components with regard to sustainable forestry management and biodiversity conservation.	composed of local administrations, green NGO, the Ministry of Natural Resources, Centers for Forest Protection, and USAID.
The USAID ROLL program should dedicate a round of grants to improving public understanding of biodiversity issues.	Following up on progress made to date, additional research, analysis, and debate at the community level is strongly warranted as one way to engage and inspire public support for protection of valuable biological resources.
USAID should consider developing hybrid programs between NGO support centers and ROLL regional offices in 3 to 4 krai or oblasts to help organize and support grassroots NGOs interested in biodiversity conservation.	As the number of Russian NGOs has grown and the challenges they currently face has intensified, this recommendation remains extremely valid.
USAID should consider assisting national and international NGOs in collecting and monitoring data on the global trade of Russian fisheries and forest products and in making the results freely and widely available.	There is a critical need for such data. Gathering and widely disseminating independent trade data could increase pressures on Russian authorities and the private sector to better account for the resources they manage. Responsible corporations would be inclined to steer clear of illegally harvested and exported goods. Awareness by civil society of the costs incurred and benefits foregone from such activities. Russian and international NGOs working in this area have had some success in doing this (e.g., BROCC). Engaging the SETT program could be an option to support this effort.
Within the bounds of the current program, USAID should identify methods to promote the transparent accounting of specific resources (fisheries or forest products) within selected oblasts and krai. This should include maintenance of open records about concessions, monitoring programs, and audit results.	This recommendation remains valid, as the absence of such information makes effective biodiversity conservation more difficult.
USAID should consider funding an evaluation of nonprofit law in Russia and providing advocacy support to changes that will strengthen the independent NGO sector.	With NGOs under increasing pressure, this recommendation remains very valid.
Within the current judicial training program, USAID should help earmark particular support to enhance the skills of enforcement officers, prosecutors, and judges in environmental law and other tools to improve successful identification and prosecution of offenses against biological resources.	The need for judicial training on these topics remains critical. Given the other demands for training under the current RAJP II project, specific attention to environmental law enforcement could be supported through grants to organizations such as Ecojuris in Moscow and Ecodal in Khabarovsk/Vladivostok.
USAID should consider helping 3 to 4 oblasts and krai develop natural resource and land use plans that support long-term fiscal planning and take into consideration the sustainable management of biodiversity.	The current pace of centrist reform makes such land use planning ever more challenging, but increasingly important. The risk of creating a vast network of “paper parks” is very real. Biological hotspots are often outside of protected areas, and some ecosystems are under- or not at all represented, especially for large carnivorous species and in southern European Russia. Land-use plans provide a foundation for long-range fiscal and programmatic planning and subsequent monitoring of land-based resources. In the RFE, plans can shed light on the problems of overlapping forest and hunting concessions and harvesting trends. In the agricultural regions of southern European Russia, land-use maps may lead to improved management of public lands and would be an important tool prior to rural land privatization.

B. Recommendations in the Context of the 2005–2010 Program Cycle

The scope of work for the present assessment encouraged formulation of potential options to support biodiversity conservation for USAID's consideration. Building on the recommendations in the 2002 assessment summarized above, additional suggestions are offered on how USAID/Russia could contribute to biodiversity in the context of the Mission's strategic program for 2005–2010. The relevance of each recommendation will depend on the final form of the 2005–2010 program, with respect to objectives, duration of each component, future of projects, new projects, funding levels, and geographic priorities. Most recommendations would require incremental changes or additions to USAID's current portfolio. Others depend on continuation of existing projects, especially ROLL and FOREST, the two projects most directly associated with biodiversity conservation, both of which are scheduled to end in 2005. Finally, one new, bold program is presented for consideration: a transboundary initiative centered on the Amur River Basin.

The wide array of projects in USAID's portfolio embodies many opportunities for implementing these recommendations on a national or regional level. Wherever possible, recommended actions would lead to demonstrated successes that could be replicated and sustained on a wider scale. Some recommendations, if put into action, could have significant impacts immediately while others will require a longer commitment before yielding results. In several cases, key recommendations put forward in the 2002 assessment are again included either in their original form or modified to reflect current conditions. In keeping with the Mission's desire to give its program a more concentrated geographic focus where it already has a strong presence and comparative advantage, the team strongly suggests that the biologically diverse, resource-dependent economies of the southern Russian Far East and southern Siberia be given special priority.

B1. Recommendations for Democracy and Governance

Most of these recommendations could be implemented through targeted rounds of the ROLL project or other programs.

- Work with independent television, press media, NGOs, and educational organizations to develop new tools and strategies to raise public awareness about conservation issues and disseminate information on natural resources-related legislation, regulations, and procedures.
- Support advocacy groups like Ecodal to assist local communities and indigenous groups exert their legal rights and responsibilities through legal means and alternative conflict resolution strategies, particularly in the RFE.
- Continue ROLL's current portfolio building on its recent grant-making round to support biosphere reserves and protected areas through grassroots action. Consider another targeted round to support grassroots NGOs involved in civil society and environmental activism.
- Target environmental NGOs for capacity building in administration, planning, and financial management of their organizations.
- Assist select municipalities in priority regions to integrate natural resources into broader land-use and public investment plans to better link services, economic development, and natural resource management, for example municipal water supply and watershed management in high biodiversity value zones.

- Add conservation-related policy and institutional issues to the priority agenda of Russian think tanks supported by USAID. Consider the short- and long-term economic, social, and ecological impacts of current environmental and natural resource trends and explore alternate public and private approaches to mitigate the most serious probable outcomes. [Adapted from the 2002 assessment.]
- Assist motivated and earnest stakeholders (i.e., Khabarovsk Krai regional government, national and international NGOs) in collecting and monitoring data on the harvesting of biological resources (wood, NTFP, fisheries) in targeted high biodiversity areas and developing open, transparent accounting mechanisms. [Adapted from the 2002 assessment.]

B2. Recommendations on Economic Development

Uncertainty over future support to the Economic Development Strategic Objective (slated to end in 2006) imposes constraints on putting forward an action agenda related to biodiversity conservation. The actions suggested below are based on two assumptions: 1) continuation of the ROLL and FOREST projects beyond 2005 and; 2) regional concentration in the RFE.

- Evaluating and building on progress under FOREST and positive trends in European Russia, introduce fire, pest control, and other best management practices into a broader multiple-use, sustained-yield framework for forest management in the RFE in close cooperation with private industry and enterprises. As one of the most important projects in the Mission's portfolio that directly impacts biodiversity conservation, the FOREST project, or a successor project, should expand its mandate to support more directly and widely improved forest management that benefits the economy, social stability, and biodiversity of the region.
- Introduce market-based international certification and standards in enterprise development, loan portfolios, and investments across USAID's portfolio. Conduct information seminars on these standards and training of certification auditors.
- Through an expanded cooperative agreement, organize fire management training for the Russian Forest Service through the U.S. Forest Service and Pominov Center in Khabarovsk. Conduct basic ground-truthing on the causes of forest fires and studies on associated economic losses and impacts to forest health (forest stocking, wildlife habitat, water quality, and soils).
- Broaden the portfolio of think tanks to include applied research on environmental accounting and policy related to public and private investments. Conduct research on the economic losses from explicit and implicit subsidies, weak regulation, and corruption in relation to environmental and natural resource management. Disseminate results widely to policymakers and stakeholders as a first step toward change.
- Support national and international NGOs in developing markets accessible to local stakeholders for environmental goods and services derived from intact and well-managed forests.
- Research Global Development Alliance opportunities that link end buyers of forest products with chain-of-custody certified or other manufacturers in China and certified/improved forest management in the RFE.

- Assist national and international NGOs in collecting and monitoring key data on regional trade of Russian fisheries and forest products, and in making the results freely and widely available. [Adapted from the 2002 assessment.]
- Use Muskie Fellowships or other education programs to train professionals in natural resource economics, policy, and law.
- Deepen engagement by USAID in biodiversity conservation at the policy level through FLEG, WTO, international treaties, and other multilateral fora.

B3. Recommendations on Environmental Health

The assessment team's understanding is that environmental health activities currently fall under the environmental resources strategic objective portfolio. The following recommendations are presented under the "health" rubric, given the probable elimination of this strategic objective in the 2005–2010 cycle according to strategic framework presented by the Mission to the team.

- Through a dedicated ROLL round or other mechanism, disseminate information to workers on industrial safety and health issues for high-risk industries like coal, power, machinery construction, and metallurgy sectors that also have significant impacts on aquatic and terrestrial biodiversity from the discharge of toxic solid and liquid wastes and gas emissions.
- Support NGOs to assist stakeholders in building advocacy groups, demanding accountability, and taking action.
- In conjunction with research on economic losses from poor environmental and natural resource management mentioned above, determine the economic and social costs of environmentally induced health problems and disseminate results widely.

C. New Program: Addressing Regional Realities in the Russian Far East, a Transboundary Approach for the Amur River

At a programmatic level, USAID could enhance biodiversity conservation with a bold new program for a transboundary conservation initiative centered on the Amur River Basin. The dire regional realities, high degree of economic interdependence, eco-regional strategic interests, and potential for embracing a more sustainable development path in the Russian Far East calls for an approach that fosters ever closer cooperation between Russia and China. This may be the only way to ensure sound management of the Amur's still-plentiful natural resources for the mutual benefit of both countries and the larger global community. Investment in an Amur transboundary management initiative would also have the potential to advance U.S. cooperation and interest in the region and would help reverse poor environmental conditions and enhance regional stability.

The initiative would:

- Promote closer collaboration on policy and planning based on an integrated basin management approach with a focus on sustainable economic growth, health, and biodiversity conservation.
- Link trade and investment to international safety, health, and environmental standards.

- Build capacity of local and regional professional resource managers, both in the public and private sector.
- Strengthen civil society, the rule of law, and democratic principles locally for more transparent disclosure of resource allocation decisions.
- Conserve natural resources that are regionally important for Russia and China, globally significant, and biologically unique.

USAID supports other strategically important transboundary river basins: Amazon, Central Africa, and Okavango in Southern Africa. Starting points for USAID cooperation in the Amur-Heilongjiang would be⁴⁹:

- Reengagement in multilateral efforts started in the 1990s with USAID assistance to regional government and NGO initiatives in policy, planning, and institutional instruments for an integrated, transboundary management approach for development and conservation of the Amur River Basin.
- Ongoing research into the impact on the global competitiveness of U.S. fisheries and forest industries from trade flows of biological products derived from poorly regulated, unsustainable, and internationally objectionable harvesting practices in RFE and Siberia.
- China's "32-character" policy for natural resource management, protection, and reforestation.
- 1999 ban on wetland conversion by Heilongjiang provincial government.
- 2000 WWF-IUCN Amur "2000 initiative."
- 2000–2003 agreements signed between Khabarovsk Krai, Jewish Autonomous Region, Chitinskaya Oblast, Heilongjiang province, and Inner Mongolia Autonomous region in joint monitoring of transboundary pollution.
- China's National Wetlands Conservation Action Plan adopted in 2002.
- 2002 Conservation Action Plan for Amur-Heilongjiang by WWF and seven regional NGOs and subsequent formation of the joint Amur Coalition.
- UNEP-GEF support to international cooperation of the Amur-Heilongjiang begun in 2002.
- 2002 Asian Development Bank support to the Sanjiang Plains Wetland Protection Project in China.
- Joint coordination committee formed by six regional RFE governments in 2003 to promote sustainable development in the Amur through common environmental management policies and programs.
- Engagement through the Eurasia Forest Law Enforcement and Governance process spearheaded by Russia.
- World Trade Organization environmental rules and negotiations for Russia's future ascendancy.

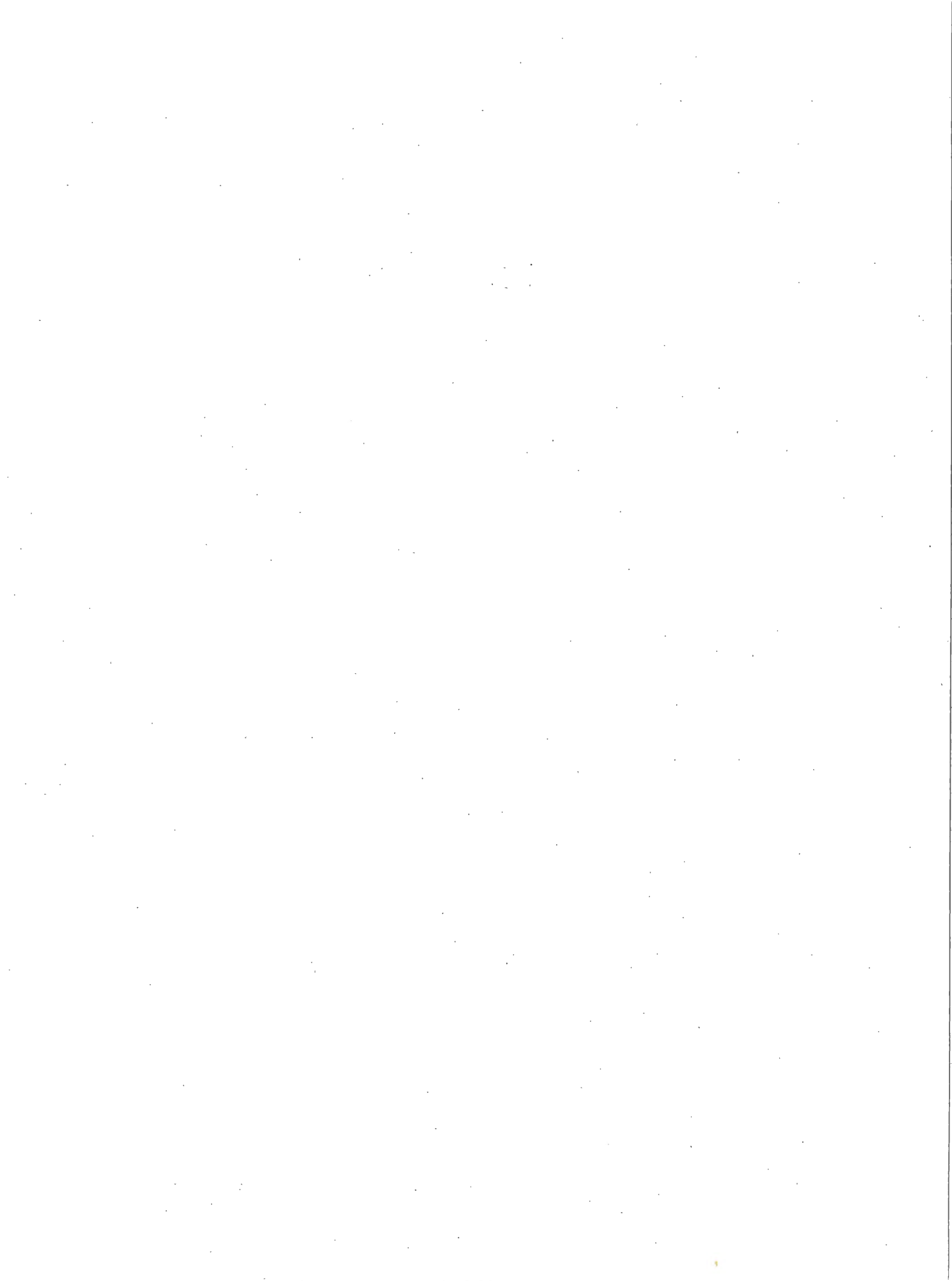
There is clearly political momentum on both sides of the border, encouragingly by regional governments and NGOs, upon which USAID could reengage in supporting transboundary management in the Amur Basin. From 1995 to 1996, USAID, U.S. National Committee on U.S.-China Relations, and Ecologically Sustainable Development, Inc., assisted scientists and state

⁴⁹ This summary of past and ongoing initiatives is adapted from Our Amur, WWF, 2004.

planning agencies of Primorsky Krai, Khabarovsky Krai, and Heilongjiang (in the People's Republic of China) provinces to design a sustainable land-use and allocation program for the Ussuri/Wusuli River Watershed, a major Amur-Heilongjiang tributary.

Using a highly participatory planning process, the program remains the most comprehensive example of transboundary watershed management in the region to date. The program dealt with all major aspects of land use, sustainable development, environmental monitoring, and nature conservation. The study recommended Ramsar status for the Sanjiang wetlands and led to establishment of several cross-border protected areas, including 974,000 ha Big Cat International Park (leopard habitat), 500,000 ha Lake Xingkai/Khanka International Nature Reserve, 1,823,000 ha Wandashan International Tiger Refuge, and 914,500 ha Sanjiang plain International Peace Park and Wildlife Refuge⁵⁰. A Memorandum of Understanding was signed in 1998 on the Wusuli/Ussuri Basin among Primorsky Krai, Khabarovsky Krai, and Heilongjiang regional governments, which prescribed joint planning and coordination of protected areas, joint development of tourism and recreation facilities, initiation of applied science exchanges in watershed management for enhancing, and maintaining water quality and fishery resources in the Wusuli/Ussuri River and adjacent waterways. An International Wusuli/Ussuri River Commission was proposed but never established. This is a prime example of the numerous significant past contributions USAID has made to conservation which go widely unrecognized.

⁵⁰ Ecologically Sustainable Development, Inc. *A Sustainable Land Use and Allocation Program for the Ussuri/Wusuli River Watershed and Adjacent Territories (Northeastern China and the Russian Far East)*. New York, 1996.



ANNEX A

Scope of Work

ANNEX A

Scope of Work

To prepare the update 119 Analysis for USAID/Russia, the contractor shall carry out the following tasks:

1. Review and update the "Actions Identified to Conserve Biodiversity" provided in the 2001 assessment.

The contractor shall meet with principal actors and partners involved in biodiversity and natural resources management in Russia to gain a solid understanding of current issues affecting the environment and sustainable use. This will require limited meetings in Washington and travel to Moscow. Because of the importance of Russia Far East to USAID's program, the team shall travel to this region to assess issues and USAID actions. The scheduling details of this trip and visits shall be done in consultation with USAID, but also based on the contractor's best judgment of completing task of this SOW. Visits to USAID activities should include at least one health and one governance activity, if considered necessary and cost effective for completion of this task order. Partners with whom the contractors should meet shall include at a minimum the USFS International Programs Office; Winrock International (FOREST project); IUCN/Russia; ISC/Russia (ROLL Project); WWF/Russia; WRI/Global Forest Watch; Forest Trends. The Wild Salmon Center; WWF-US (Bering Sea and GFTN/SFPGA); Greenpeace/Russia are other active groups which could be consulted. Principal donors include the WB (new Forestry Loan), UNDP/GEF (Kamchatka Protected Areas) and CIDA. Key international private sector investors and operators (i.e. IKEA and International Paper and/or AF&PA) in the forest sector should also be consulted regarding their views on sectoral issues affecting sustainable management.

The contractor is encouraged to use cost-effective methods of information gathering as appropriate, particularly in the field. For example, some grantees or partners may be convened in round-table discussions, if appropriate. Recent analyses may also synthesize key issues. For example, Forest Trends, Winrock, WWF, the American Forest and Paper Association and others have been studying natural resources trade-related issues.

It is expected that the majority of the general issues identified under the original assessment will remain. However, any updates on significant progress in these areas should be highlighted and, if appropriate, revised needs described. It is important for the contractor to focus on the most critical issues affecting biodiversity in the greater context of economic growth and governance, such as sustainable use, rule of law and harmonizing legislation with operations on the ground. The contractor is expected to build upon the general baseline assessment, and strongly encouraged to focus on more specific issues that have evolved since the original report.

2. Review the emerging USAID strategy and update the “Extent to which proposed Actions [by USAID] meet the [conservation] needs identified.”

To complete this task, the contractor is expected to meet with mission staff in Moscow and relevant implementers to gain a solid understanding of the mission’s new strategy as well as any on-going or newly funded programs which may contribute to conservation of natural resources and biodiversity. Given the importance of the RFE in USAID’s portfolio, the contractor shall become familiar with the clusters of health, democracy and environmental activities in this region. USAID contributions to biodiversity needs identified could be direct or indirect and may be cross-cutting in nature. The contractor must also be generally familiar with overall State Department priorities for Russia (EUR/ACE and OES) and the future of USAID’s program. USAID/Russia has already begun to consider synergies between the environmental sector, and its objectives on health, democracy and economic growth. In conducting the assessment, the contractor may identify additional points of synergy related to natural resources conservation, which the mission has not considered. These are welcome but must be clear, concise and reasonable opportunities which fit in with USAID’s strategic goals and new direction.

ANNEX B

Interview List

ANNEX B

Interview List

Dmitry Aksenov, Head, Forest Watch Program, Socio-Ecological Union International, Moscow

Amirkhan Amirkhanov, Ministry of Natural Resources of the Russian Federation, Moscow

Irina Bogdan, Chairperson, ECODAL Far Eastern Environmental Public Interests Organization, Khabarovsk

Vladimir Boltrushko, former Head, Environmental Protection Service, Khabarovsk Branch of Ministry of Natural Resources, Khabarovsk

Brian Brennan, Office of Democratic Initiatives, USAID/Russia, Moscow

Dr. Ruslan O. Butovsky, Program Director, Institute for Sustainable Communities, Moscow

Igor Chestin, Ph.D., M.Sc., Director, WWF Russia, Moscow

Yury Darman, Ph.D., Director, WWF Russia, Far Eastern Branch, Vladivostok

Valentina I. Dmitreva, Director, Initiative for Social Action and Renewal in Eurasia (ISAR), Russian Far East Office, Vladivostok

Dmitry Efremov, The Far Eastern Scientific and Research Institute of Forest Industry, Khabarovsk

Christopher A. Ellis, International Forest Policy Officer, Office of Ecology and Terrestrial Conservation, US Department of State, Washington, DC

Sylva Etian, Deputy Director, Office of Health, USAID/Russia, Moscow

Roman A. Fadeev, Staff Writer, Bureau for Regional Outreach Campaigns (BROC), Vladivostok

Mikhail Fedotov, Leading Specialist, Department of Protected Areas, Ministry of Natural Resources, Moscow

Susan Fertig-Dykes, Democracy Specialist, Europe and Eurasia Office of Democracy, Governance and Social Transitions, USAID, Washington, DC (met while acting in the USAID Moscow Office of Democratic Initiatives)

Vladimir Filipov, Director, Morekhod Ltd offshore fisheries, Vladivostok

Nancy Fisher-Gormley, Deputy Office Director, Office of Program and Project Development, USAID/Russia, Moscow

Richard Fraenkel, Team Leader for Russia, Bureau for Europe & Eurasia, USAID, Washington, DC

Alicia Grimes, Senior Natural Resources Management Specialist and E&E Backstop EGAT/NRM Forestry Team, USAID, Washington, DC

Roy Grohs, Program Officer, USAID/Russia, Moscow

Elena Gurvich, M.D., Ph.D., Senior HIV/Child Welfare Advisor, Office of Health, USAID/Russia, Moscow

Randall W. Houston, Political-Economic Officer, Consulate General of the United States of America, Vladivostok

Sean Huff, International Development Intern, EE/OM, USAID, Washington, DC

Gary Imhoff, Program Operations Advisor, Bureau for Europe & Eurasia, USAID, Washington, DC

Irina Isaeva, Project Management Specialist (Russian Far East), Office of Program and Project Development, USAID, Vladivostok

Michael Jones, Consultant, Pacific Environment, Vladivostok

Phil Jones, Bureau Environmental Officer, Bureau for Europe & Eurasia, USAID, Washington, DC

Larisa Kabalik, "Zov Taigi" Wildlife Protection Center, Vladivostok

Mikhail Karpachevsky, Certification Specialist, Biodiversity Conservation Center, Moscow

Yuriy Kazakov, Cognizant Technical Officer and Environmental Policy Advisor, USAID/Russia, Moscow

Radik Kobets, Director, VostokBioproduct, Khabarovsk

Vladimir Kolomytsev, Chief, Khabarovsk Regional Branch of Forest Agency, Ministry of Natural Resources of the Russian Federation, Khabarovsk

Lilia Kondrashova, Coordinator Environmental Education Resource Information Center, Initiative for Social Action and Renewal in Eurasia (ISAR), Russian Far East Office, Vladivostok

Tatiana Korobenko, Director, Russian Far East Replication of Lessons Learned (ROLL) project, Khabarovsk

Mikhail Kreindlin, Legal Advisor, Greenpeace Russia, Moscow

Victor Kryukov, Deputy Director of Development and Coordinator of Task Force on Amur River Basin Development, Ministry of Natural Resources, Khabarovsk Territory Government, Khabarovsk

Maria V. Kryukova, Ph.D., Botanist and Senior Researcher, Institute for Water and Ecology Problems, Russian Academy of Sciences, Far East Branch, Khabarovsk

Alexey Kulik, Chief Forester, Sukpai Leskhoz, Sukpai

Dr. Alexander N. Kulikov, Chairman, The Wildlife Foundation, Khabarovsk

Dr. Evgeniy P. Kuzmichev, FOREST Project Technical Specialist and Deputy Project Manager, Winrock International, Moscow

Lars Laestadius, Ph.D., Senior Associate, Forest Program, World Resources Institute, Washington, DC

Alexey Lankin, Timber Trade Specialist, Consultant to WWF RFE; Pacific Institute of Geography, Far Eastern Branch of Russian Academy of Sciences, Vladivostok

Anatoly V. Lebedev, Chairman, Bureau for Regional Outreach Campaigns (BROC), Vladivostok

Dr. Alexander B. Levintal, Deputy Chairman of the Government of the Khabarovsk Territory; Minister for Economic Development and Foreign Relations; Honored Economist of Russian Federation, Khabarovsk

Svetlana Lozovskaya, Leading Specialist, Vzmorye Fund of Joint Sanatoriums, Vladivostok

Valeria Matveeva, Project Management Assistant, Economic Growth, USAID/Russia, Moscow

Lyubov Maximova, Project Management Specialist, Civil Society Unit, USAID/Russia, Moscow

Liz Mayhew, International Programs, USAID Forest Service, Washington, DC

Arthur Mayss, Manager, "The Living Sea" program, Initiative for Social Action and Renewal in Eurasia (ISAR), Russian Far East Office, Vladivostok

Dr. Elena V. Milanova, Regional Centers Manager, Institute for Sustainable Communities, Moscow

Isabel Munilla, Development Coordinator, Global Forest Watch, World Resources Institute, Washington, DC

Patrick Murphy, Senior Rule-of-Law Advisor, USAID/Russia, Moscow

Desaix Myers, Mission Director, USAID/Russia, Moscow

Patrick J. Perner, Chief of Party, FOREST Project, Winrock International, Khabarovsk

Lara Peterson, Russia, Europe and Eurasia Programs, USDA Forest Service, Washington, DC

Carol Pierstorff, Director, Office of Regional Development, USAID/Russia Moscow

Nikita Pisnyachevsky, Evaluation and Performance Monitoring Unit, Office of Program and Project Development, USAID/Russia, Moscow

Alexei Poshyakov, Ph.D., Ornithologist, Institute for Water and Ecology Problems, Russian Academy of Sciences, Far East Branch, Khabarovsk

Professor Svetlana Schlodgauer, Institute of Water and Ecological Problems, Far Eastern Branch of the Russian Academy of Sciences, Khabarovsk

Vladimir V. Shamov, Ph.D., Terrestrial Hydrology Specialist and Senior Researcher, Institute for Water and Ecology Problems, Russian Academy of Sciences, Far East Branch, Khabarovsk

Petr Sharov, Assistant to Freshwater Ecosystems Program Coordinator, WWF Russia, Far Eastern Branch, Vladivostok

Victor A. Shastun, Head of the Board, Central Administrative Board of Natural Resources and Environmental Protection, Primorsky Krai Branch, Ministry of Natural Resources of the Russian Federation, Vladivostok

Professor Alexander S. Sheingauz, Head, Microeconomics Division, Economic Research Institute, Khabarovsk

Alexander Shestakov, Vice Director, WWF Russia, Moscow

Vladimir Shirko, President, Regional Association of Indigenous Peoples of Northern Primorsky Krai, Vladivostok

Sergey B. Sivaev, Municipal Economy Director, The Institute for Urban Economics, Moscow

Alexander Sokolowski, Political Process Analyst, Europe and Eurasia Office of Democracy, Governance and Social Transitions, USAID, Washington, DC

Vassily Solkin, Director, "Zov Taigi" Wildlife Protection Center, Vladivostok

Evgeny Shvarts, Vice Director for Policy, WWF Russia, Moscow

Viktor Teplyakov, Forestry Program Manager, IUCN, Moscow

Tatiana N. Tokachova, International Projects Coordinator, Institute of Water and Ecological Problems, Far Eastern Branch of the Russian Academy of Sciences, Khabarovsk

Sergey Tveritinov, Director, Department of the Environmental International Cooperation, Ministry of Natural Resources, Moscow

Larisa A. Vachayeva, Ph.D., Deputy Director, Department of Natural Resources, Director of Forest Resources Division, Ministry of Natural Resources, Khabarovsk Territory Government, Khabarovsk

Alexei Vaisman, Director, TRAFFIC Russia, Moscow

Lyudmila N. Vikhrova, Ph.D., former Senior Environmental Economist, USAID/Russia, Moscow

Dr. Andrei E. Volkov, Project Manager, Institute for Sustainable Communities, Moscow

Professor Boris A. Voronov, Director, Institute of Water and Ecological Problems, Far Eastern Branch of the Russian Academy of Sciences; Head of Laboratory of Animal Ecology; Distinguished Ecologist of Russian Federation, Khabarovsk

Kadi Warner, Managing Director, Forestry & Natural Resource Management, Winrock International, Arlington, VA

Andy White, Senior Director, Policy and Market Analysis, Forest Trends, Washington, DC

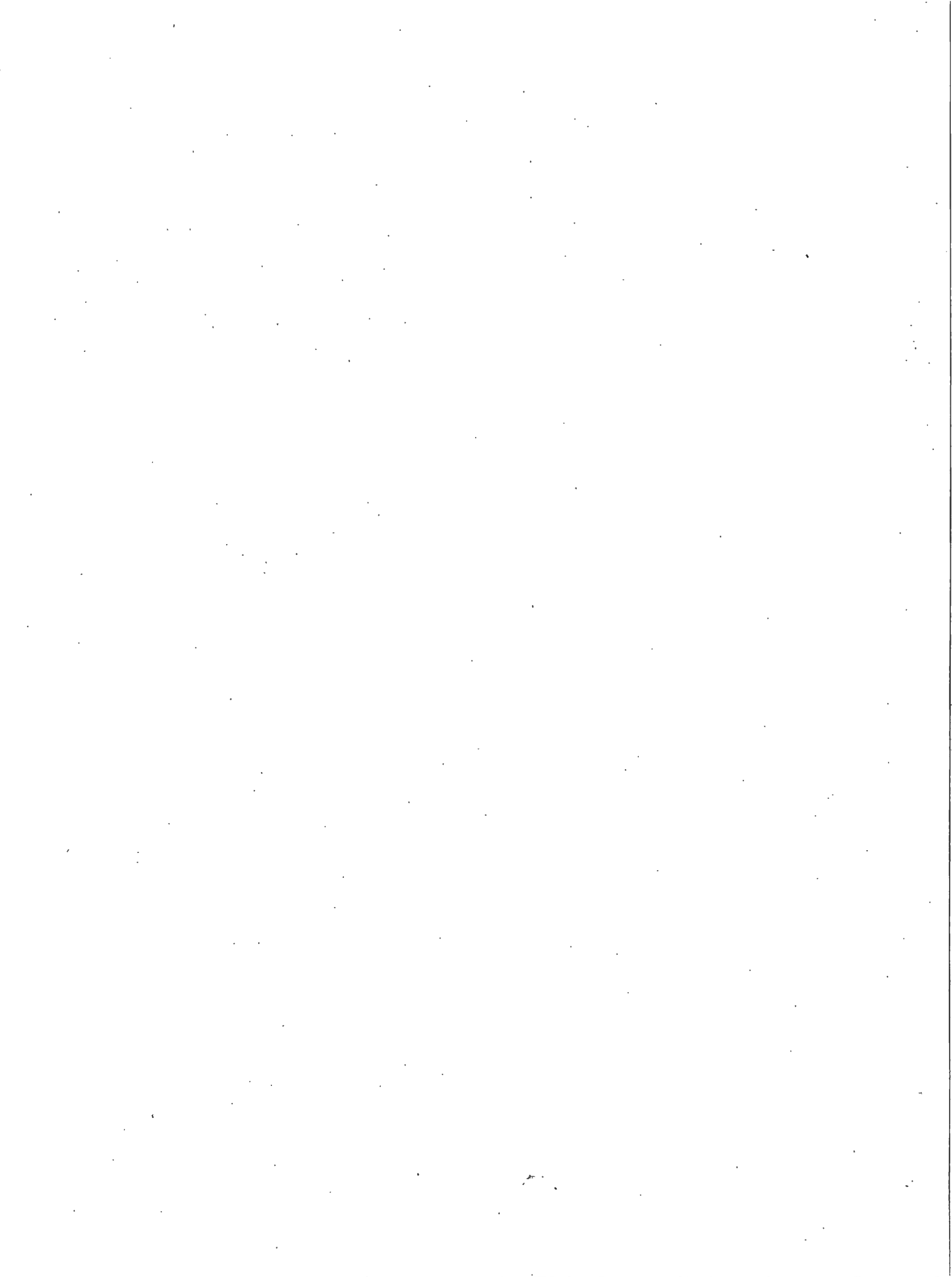
Mr. Wong, Director, Rimbunan Hijau processing plant, Sukpai

Nikolay Yefimov, Deputy Director, Environmental Protection Department, Ministry of Natural Resources, Khabarovsk Territory Government, Khabarovsk

Evgeny V. Zabubenin, Coordinator, FOREST Project, Winrock International, Khabarovsk

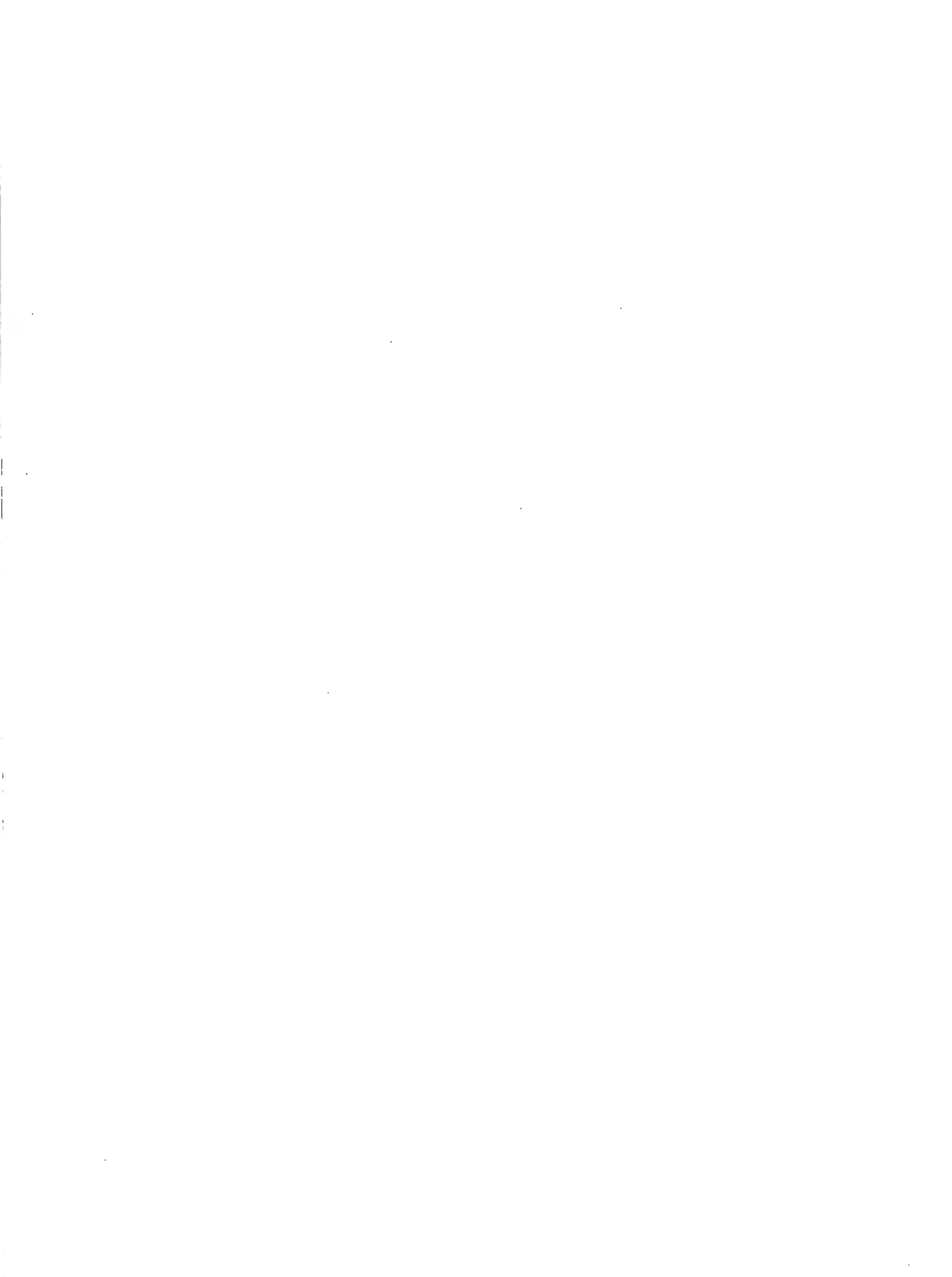
Professor Vladimir Zakharov, Director, Center for Russian Environmental Policy; Head of the Department, Institute of Developmental Biology, Russian Academy of Sciences, Moscow

Konstantin A. Zgurovsky, Ph.D., Marine Program Coordinator, WWF Russia, Far Eastern Branch, Vladivostok



ANNEX C

Sections 117 and 119 of the Foreign Assistance Act



ANNEX C

Sections 117 and 119 of the Foreign Assistance Act

Foreign Assistance Act, Part I, Section 117 - Environment and Natural Resources

Sec. 117\71\ Environment and Natural Resources.--

(a) The Congress finds that if current trends in the degradation of natural resources in developing countries continue, they will severely undermine the best efforts to meet basic human needs, to achieve sustained economic growth, and to prevent international tension and conflict. The Congress also finds that the world faces enormous, urgent, and complex problems, with respect to natural resources, which require new forms of cooperation between the United States and developing countries to prevent such problems from becoming unmanageable. It is, therefore, in the economic and security interests of the United States to provide leadership both in thoroughly reassessing policies relating to natural resources and the environment, and in cooperating extensively with developing countries in order to achieve environmentally sound development.

71\ 22 U.S.C. 2151p. Sec. 117 was redesignated from being sec. 118 by sec. 301(1) of Public Law 99-529, resulting in the creation of two sections 117. Sec. 301(2) of Public Law 99-529 (100 Stat. 3014) further deleted subsec. (d) of that section, which dealt with tropical forests, and then sec. 301(3) of Public Law 99-529 added a new section 118 entitled "Tropical Forests." This section, as added by sec. 113 of Public Law 95-88 (91 Stat. 537) and amended by sec. 110 of Public Law 95-424 (92 Stat. 948) and sec. 122 of Public Law 96-53 (93 Stat. 948), was further amended and restated by sec. 307 of the International Security and Development Cooperation Act of 1981 (Public Law 97-113; 95 Stat. 1533). This section previously read as follows: "Sec. 118. Environment and Natural Resources--

(a) The President is authorized to furnish assistance under this part for developing and strengthening the capacity of less developed countries to protect and manage their environment and natural resources. Special efforts shall be made to maintain and where possible restore the land, vegetation, water, wildlife and other resources upon which depend economic growth and human well-being especially that of the poor.

(b) In carrying out programs under this chapter, the President shall take into consideration the environmental consequence of development actions." See also sec. 534 of the Foreign Operations, Export Financing, and Related Programs Appropriations Act, 1990 (Public Law 101-167; 103 Stat. 1228), as amended, relating to "Global Warming Initiative." See also sec. 533 of the Foreign Operations, Export Financing, and Related Programs Appropriations Act, 1991 (Public Law 101-513; 104 Stat. 2013), as amended, relating to "Environment and Global Warming." See also sec. 532 of the Foreign Operations, Export

Financing, and Related Programs Appropriations Act, 1993 (Public Law 102-391; 106 Stat. 1666), relating to "Environment."

(b) In order to address the serious problems described in subsection (a), the President is authorized to furnish assistance under this part for developing and strengthening the capacity of developing countries to protect and manage their environment and natural resources. Special efforts shall be made to maintain and where possible to restore the land, vegetation, water, wildlife, and other resources upon which depend economic growth and human well-being, especially of the poor.

(c)(1) The President, in implementing programs and projects under this chapter and chapter 10 of this part, shall take fully into account the impact of such programs and projects upon the environment and natural resources of developing countries. Subject to such procedures as the President considers appropriate, the President shall require all agencies and officials responsible for programs or projects under this chapter—

\72\ Sec. 562 of the Foreign Operations, Export Financing, and Related Programs Appropriations Act, 1991 (Public Law 101-513; 104 Stat. 2026), added a new chapter 10 to part I of this Act, providing for long-term development in sub-Saharan Africa, and made a conforming amendment by inserting "and chapter 10 of this part" here.

(A) to prepare and take fully into account an environmental impact statement for any program or project under this chapter significantly affecting the environment of the global commons outside the jurisdiction of any country, the environment of the United States, or other aspects of the environment which the President may specify; and

(B) to prepare and take fully into account an environmental assessment of any proposed program or project under this chapter significantly affecting the environment of any foreign country. Such agencies and officials should, where appropriate, use local technical resources in preparing environmental impact statements and environmental assessments pursuant to this subsection.

(2) The President may establish exceptions from the requirements of this subsection for emergency conditions and for cases in which compliance with those requirements would be seriously detrimental to the foreign policy interests of the United States.

Foreign Assistance Act, Part I, Section 119 - Endangered Species

Sec. 119\75\ Endangered Species--

(a) The Congress finds the survival of many animal and plant species is endangered by overhunting, by the presence of toxic chemicals in water, air and soil, and by the destruction of habitats. The Congress further finds that the extinction of animal and plant species is an irreparable loss with potentially serious environmental and economic consequences for developing and developed countries alike. Accordingly, the preservation of animal and plant species through the regulation of the hunting and trade in endangered species, through limitations on the pollution of natural ecosystems, and through the protection of wildlife habitats should be an important objective of the United States development assistance.

\75\ 22 U.S.C. 2151q. Sec. 119, pars. (a) and (b) were added by sec. 702 of the International Environment Protection Act of 1983 (title VII of the Department of State Authorization Act, Fiscal Years 1984 and 1985, Public Law 98-164; 97 Stat. 1045).

(b) \75\ In order to preserve biological diversity, the President is authorized to furnish assistance under this part, notwithstanding section 660,\76\ to assist countries in protecting and maintaining wildlife habitats and in developing sound wildlife management and plant conservation programs. Special efforts should be made to establish and maintain wildlife sanctuaries, reserves, and parks; to enact and enforce anti-poaching measures; and to identify, study, and catalog animal and plant species, especially in tropical environments.

\76\ Section 533(d)(4)(A) of the Foreign Operations, Export Financing, and Related Programs Appropriations Act, 1990 (Public Law 101-167; 103 Stat. 1227), added "notwithstanding section 660" at this point.

(c) \77\ Funding Level.--For fiscal year 1987, not less than \$2,500,000 of the funds available to carry out this part (excluding funds made available to carry out section 104(c)(2), relating to the Child Survival Fund) shall be allocated for assistance pursuant to subsection (b) for activities which were not funded prior to fiscal year 1987. In addition, the Agency for International Development shall, to the fullest extent possible, continue and increase assistance pursuant to subsection (b) for activities for which assistance was provided in fiscal years prior to fiscal year 1987.

\\77\ Pars. (c) through (h) were added by sec. 302 of Public Law 99- 529 (100 Stat. 3017).

(d) \\77\ Country Analysis Requirements.--Each country development strategy statement or other country plan prepared by the Agency for International Development shall include an analysis of-

- (1) the actions necessary in that country to conserve biological diversity, and
- (2) the extent to which the actions proposed for support by the Agency meet the needs thus identified.

(e) \\77\ Local Involvement.--To the fullest extent possible, projects supported under this section shall include close consultation with and involvement of local people at all stages of design and implementation.

(f) \\77\ PVOs and Other Nongovernmental Organizations.-- Whenever feasible, the objectives of this section shall be accomplished through projects managed by appropriate private and voluntary organizations, or international, regional, or national nongovernmental organizations, which are active in the region or country where the project is located.

(g) \\77\ Actions by AID.--The Administrator of the Agency for International Development shall-

- (1) cooperate with appropriate international organizations, both governmental and nongovernmental;
- (2) look to the World Conservation Strategy as an overall guide for actions to conserve biological diversity;
- (3) engage in dialogues and exchanges of information with recipient countries which stress the importance of conserving biological diversity for the long-term economic benefit of those countries and which identify and focus on policies of those countries which directly or indirectly contribute to loss of biological diversity;
- (4) support training and education efforts which improve the capacity of recipient countries to prevent loss of biological diversity;
- (5) whenever possible, enter into long-term agreements in which the recipient country agrees to protect ecosystems or other wildlife habitats recommended for protection by relevant governmental or nongovernmental organizations or as a result of activities undertaken pursuant to paragraph, and the United States agrees to provide, subject to obtaining the necessary appropriations, additional assistance necessary for the establishment and maintenance of such protected areas;

(6) support, as necessary and in cooperation with the appropriate governmental and nongovernmental organizations, efforts to identify and survey ecosystems in recipient countries worthy of protection;

(7) cooperate with and support the relevant efforts of other agencies of the United States Government, including the United States Fish and Wildlife Service, the National Park Service, the Forest Service, and the Peace Corps;

(8) review the Agency's environmental regulations and revise them as necessary to ensure that ongoing and proposed actions by the Agency do not inadvertently endanger wildlife species or their critical habitats, harm protected areas, or have other adverse impacts on biological diversity (and shall report to the Congress within a year after the date of enactment of this paragraph on the actions taken pursuant to this paragraph);

(9) ensure that environmental profiles sponsored by the Agency include information needed for conservation of biological diversity; and

(10) deny any direct or indirect assistance under this chapter for actions which significantly degrade national parks or similar protected areas or introduce exotic plants or animals into such areas.

(h) \77\ Annual Reports.--Each annual report required by section 634(a) of this Act shall include, in a separate volume, a report on the implementation of this section.

ANNEX D

Terrestrial Biomes

Terrestrial Biomes

Below we describe the principal terrestrial biomes of Russia, which are extremely coarse ecological divisions covering tremendous expanses of land. Each biome includes many distinct ecosystems, such as rivers, marshes, bogs, floodplain meadows, grasslands, and forests. In addition, each ecosystem includes scores or hundreds of distinct natural communities. For example, the "mixed broad-leaved and mixed coniferous broad-leaved forest" in the Russian Far East includes many types of forests, some dominated by oak, others by poplar, and still others with a substantial component of pines; and each of these forest types has a distinct component of shrubs, herds, birds, insects, etc. What follows is an overview of the biomes highlighting key biodiversity issues and opportunities for conservation.

Polar Deserts

Polar deserts are characterized by their circumpolar distribution. In Northern Eurasia, they occur on the islands of the Arctic Ocean. The ecological diversity of polar deserts is poor due to climate extremes. Local flora of vascular plants amounts to only 20-30 species per 100 km². The vegetation cover is dominated by spore plants: algae, lichens, liverworts, and mosses, and a few species of flower plants (*Saxifraga spp.*, *Puccinellia spp.*, and grasses). Common animals include seals, walrus (*Odoboenus rosmarus*), and polar bears (*Ursus maritimus*). Many species and ecosystems of this biome are protected on Franz Josef Land in the Zemlia Frantsa Iosifa protected area (zakaznik).

Arctic Tundra

Arctic tundra also has circumpolar distribution. In European Russia, arctic tundra occurs on Arctic Ocean islands, including the Southern Island of the Novaya Zemlia (New Land) and others. In Asian Russia, arctic tundra forms a narrow belt along the Kara, Laptev, Northeast, and Chukchee seas, Novosibirskie Islands, and Severnaya Zemlia. Maritime plain landscapes with polygonal and spotty tundras, polygonal wetlands, and brine marshes of delta areas are common in arctic tundra. Local vascular floras of arctic tundra typically include 70-100 species per 100 km².

Common flowering plants include *Dryas spp.*, *Cassiope tetragona*, willows (*Salix spp.*), grasses, sedges, and saxifrages. Lichens and mosses form an insulating carpet that maintains the permafrost typical of this biome. Vertebrate fauna typically includes reindeer (*Rangifertarandus*), polar fox (*Alopex lagopus*), lemmings (*Lemmus sibirica*, *Dicrostonyx torquatus*), geese, alpine ptarmigan (*Lagopus mutus*), and numerous species of waterfowl. In the past few decades, oil and gas prospecting, extraction, and transportation have destroyed arctic tundra on Kolguev Island, and the Yamal and Gydan peninsulas. Rare plant species are few. Best known among rare animal species are walrus (*Odoboenus rosmarus*), Bewick's swan (*Cygnus bewickii*), and snow goose (*Chen hyperboreus*). The biota and ecosystem of arctic tundra are

represented in several zapovedniks, including Bolshoi Arktichesky (Taimyr Peninsula and islands), Ust-Lensky (Lena river estuary), and Ostrov Vrangela (Chukchee Sea).

Subarctic Tundra

Subarctic tundra is marked by bizarre wetland formations resulting from centuries of cyclical freezing and thawing. Brush lands are common along rivers. Species diversity in subarctic tundra may be twice that of biomes further north. Local flora of vascular plants reaches 250-300 species per 100 km², including a wide range of shrubs (birch, willow, *Vaccinium spp.*, *Empetrum nigrum*), grasses, and sedges. Mosses are remarkably diverse, with 150-200 species in some localities. Vertebrate fauna is also richer, with up to 100 bird species and 25 mammal species in some areas. Rare species include falcons (*Falco rusticolus*, *F. peregrinus*), swans (*Cygnus bewickii*), and red-breasted goose (*Branta ruficolis*). In European Russia, subarctic tundra biota is conserved only in the Lapland zapovednik on the Kola Peninsula. In Asian Russia, it is conserved in Taimyrsky, Putoransky, and Ust-Lensky zapovedniks, in the Bering Natural Park, and in some zakazniks.

Boreal Coniferous Forests

Boreal coniferous forests (or dark-coniferous taiga) are common in European Russia and Siberia. These forests are dominated by a few tree species, generally including spruce (*Picea abies*, *P. obovata*), fir (*Abies sibirica*), cedar (*Pinus sibirica*), pine (*Pinus sylvestris*), and larch (*Larix spp*). Although boreal coniferous forests look uniform, they harbor a surprising diversity of ecosystems and microhabitats important for many species. This biome is notably more diverse than tundra: local vascular floras consist of 400-700 species per 100 km², and up to 150 bird species and 50 mammal species. There are few species endemic to boreal coniferous forests and few that are rare, such as the Siberian spruce grouse (*Falcapennis falcipennis*).

Species typical of this biome include brown bear (*Ursus arctos*), moose (*Alces alces*), lynx (*Lynx lynx*), otter (*Lutra lutra*), beaver (*Castor fiber*), and sable (*Martes zibellina*). Examples of the biome are protected in many zapovedniks (strict nature reserves), including Kivach, Kostomukhshsky, Pinezhsky, Pechoro-Ilychsky, Malaya Sosva, Kerzhensky, Visimsky, Zeisky, Barguzinsky, and Central Siberia.

Larch Forests

Larch forests (light-coniferous taiga and thin forest) are widespread in central and eastern Siberia, Transbaikalia, and the Far East. Larch (*Larix dahurica*, *L. sibirica*, *L. sukaczewii*) is dominant over much of this biome, particularly in low mountains and river valleys. Pine forest and tundra are often interspersed with the larch forests. Permafrost underlines much of the biome. Sites typically contain 400-450 vascular plant species per 100 km², up to 80 species of birds, and 40 mammal species. Steppes included in this biome are found in valleys (e.g., of the Lena River) and on southern slopes, where they harbor significant biodiversity. The ecosystems and species diversity of this biome are protected in Putoransky, Magadansky, and Olekminsky zapovedniks, among others.

Broad-Leaved and Mixed Coniferous Broad-Leaved Forests

Broad-leaved and mixed coniferous broad-leaved forests are found in European Russia and the southern Russian Far East. Though superficially similar, the details of natural communities in these two regions are distinct. In general, the dominant trees include oak (*Quercus spp.*), maple (*Acer spp.*), linden (*Tilia sp.*), and ash (*Fraxinus spp.*). The northern reaches often include conifers such as spruce (*Picea spp.*), pine (*Pinus spp.*), and fir (*Abies spp.*). Sites may include more than 800 species of vascular plants per 100 km², 60 species of mammals, and 150 birds. This biome includes some of the well recognized rare and endangered species, such as tiger (*Panthera tigris*), leopard (*Panther pardus*), lady-slipper orchids (*Cypripedium spp.*), and ginseng (*Panax schin-seng*). Notably rich in biodiversity and particularly threatened are the broad-leaf forests of the North Caucasus, a region identified as one of the 200 ecosystems in the world in need of urgent protection (Olson D.M. & E. Dinerstein 1998). This biome is found in Bashkirsky, Volzhsko-Kamsky, Voronezhsky, Bryansky Les, Zhigulevsky, Ilmsky, Kedrovaya Pad, Sikhote-Alinsky, Les na Vorkhle, Prioksko-Terrasny, Ussuriisky, Khopersky, Shulgan-Tash, Khingansky, and Caucassky zapovedniks, as well as other areas designated for nature conservation.

Steppe and Forest Steppe

Steppe and forest steppe are widely distributed in European Russia and southern Siberia and adjacent countries. Grasslands dominate this biome. Broadleaf forests are often intermixed with the grasslands in the north and along river valleys in the south. More than 1,100 species of vascular plants can be found in mesic sites, 700 species in dry steppes, and 500 species per 100 km² in arid steppes. Typical sites might include 50 mammal species and 90 bird species. This zone is indicative of a high level of rare and endangered flora and fauna species, including plants such as *Stipa spp.*, *Adonis vernalis*, *Crambe tatarica*, *Centaurea spp.*, *Fritillaria spp.*, *Paeonia tenuifolia*, and vertebrates such as *Vormela peregusna* and birds of prey. This biome includes many distinct natural communities and high species diversity. The high variability of natural communities, often on unique substrates such as limestone, includes many endemic species in need of conservation.

Many types of steppes in European Russia and the North Caucasus have nearly all been converted to agriculture. The remaining intact sites of these steppes urgently need conservation, and many small, protected sites should be connected as an ecological network. Steppe biomes are carried out in Bashkirsky, Galichia Gora, Dagestansky, Povolzhskaya Step, Severo-Ossetinsky, Khopersky, Tsentralno-Chernozemny, and Orenburgsky zapovedniks. Russian steppe. Photo by A. Pazhenkov.

Semiarid and Arid Biomes

Semiarid and arid biomes are found in southern Russia, around the Caspian Sea, the deltas of the Terek and Samur rivers, and in Asia on the Kazakhstan border and the mountain valleys of southern Siberia. This biome is dominated by grasses (e.g., *Festuca spp.*, *Agropyrum spp.*, *Stipa spp.*, and other grasses), a distinct component of ephemeral flowering plants (e.g., *Tulipa spp.*, *Eremurus spp.*, *Alyssum spp.*, and *Papaver spp.*), and a few shrubs and trees. Sites typically include 150-250 species of vascular plants or fewer in the driest areas, 25-30 species of mammal,

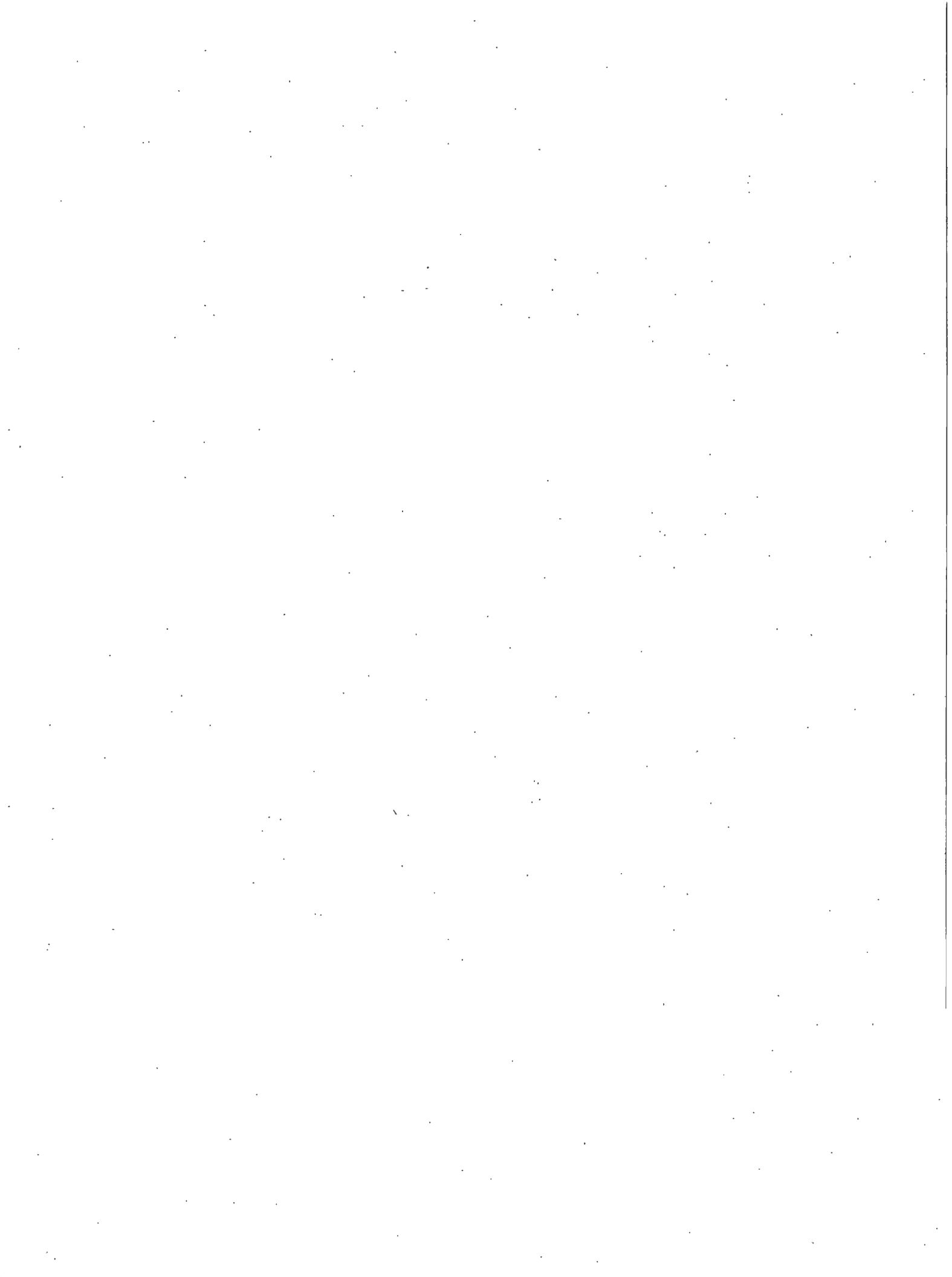
40-50 species of birds, and a relatively high diversity of reptiles (25-30 species) per 100 km². Typical of grasslands in much of the world, the arid and semiarid grasslands of Russia have been substantially transformed by people, with the usual negative impacts on biological diversity.

Cattle graze many of these grasslands and large areas are irrigated and cultivated. Overgrazing and salinization are serious problems. Intensive exploitation of Russian arid ecosystems has led to biodiversity depletion and extension of the rare species lists, especially among vertebrates. The biological and landscape diversity of Russian semiarid and arid lands are protected in Chernye Zemli, Dagestansky, and Ubsunurskaya Kotlovina zapovedniks.

Eco-region Names and Size (from WWF 2001e)

Name Of The Eco-region	Square Area (thousands of km ²)
1) Ice Arctic deserts and tundra	250.7
2) Yamal and Gydan Arctic tundra	192.4
3) Tundra of Gydan Peninsula	116.9
4) Coastal Arctic tundra of Taimyr Peninsula	163.3
5) Forests, mountain tundra and meadows of Kamchatka Peninsula	293.5
6) Forests and mountain tundra of Kuril Islands	21.1
7) Coastal tundra of Kola Peninsula	80.9
8) Tundra and forested tundra of the Polar Ural	96.3
9) East Siberian tundra	555.6
10) Tundra of north east Asia	636.0
11) Arctic desert, tundra and forested tundra of Taimyr Peninsula and Northern Siberian lowland.	660.9
12) Kaninsko-Malozemelskaya and Bolshezemelskaya tundra	126.4
13) Ob-Pur and Yenisey northern taiga	303.1
14) Okhotsk northern taiga and thin forests	552.5
15) Southern taiga of the Sakhalin Island	18.8
16) Northern and middle taiga of Pechora plain	240.4
17) North Sosva northern taiga	59.4
18) Mountain tundra and northern taiga of Putoran Lena-Olenek plateaux	922.6
19) Northern taiga of Ob-Nadym plain	271.1
20) Middle taiga of the Sakhalin Island	30.7
21) Northern and middle taiga of Kola Peninsula, Karelia and White Sea coast	244.9
22) Northern taiga and mountain tundra of the Urals	74.4
23) Northern taiga and thin forests of North Eastern Siberia	1235.5
24) Steppe and forested steppe of Transbaikal region (1)	15.7
25) Steppe and forested steppe of Transbaikal region (2)	79.8
26) Southern taiga of Baltic plain	93.0
27) Middle taiga of the Western Siberia	630.9
28) East European northern and middle taiga	388.7
29) Mountain taiga forests and freshwater communities of the Baikal Lake	38.1
30) Middle and southern taiga of Angara river watershed and Yenisey Ridge	426.3
31) Steppe and forested steppe of lowlands and uplands of Southern Siberia	204.1
32) Forests of Middle and Southern Ural	214.6
33) Southern and mountain taiga of the Sayan and Eastern Baikal area	236.1

Name Of The Eco-region	Square Area (thousands of km ²)
34) Semi-deserts of the Russian plain	133.3
35) Southern taiga of Tobol-Ishim and Vasugan plains	643.9
36) Taiga of Middle and Eastern Siberia	2526.4
37) Mountain taiga of Transbaikal region	464.4
38) Mountain taiga and steppe of the Altai, Sayan and Eastern Tuva upland	392.9
39) Mixed, broad-leaved forests and forested steppe of the Russian plain	779.2
40) Middle and southern taiga of the south of the Far East	722.5
41) Southern taiga and mixed coniferous-broad-leaved forests of the Russian plain	924.4
42) Steppe and forested steppe of the southern Ural and Western Siberia	808.3
43) Steppe of the Russian plain	603.5
44) Mountain broad-leaved forests and upland steppe of the Caucasus	201.4



ANNEX E

Bibliography

ANNEX E

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Ministry of Natural Resources of the Russian Federation, <http://www.mnr.gov.ru/>

Pacific Environment, <http://www.pacificenvironment.org>

Practical Science (map catalogue and brief analysis of country-wide information), <http://sci.aha.ru/>

Red Data Book (listing of endangered animals of Russia), <http://nature.ok.ru/>

The ROLL Project, <http://www.iscmoscow.ru/>

The Wild Salmon Center, <http://www.wildsalmoncenter.org>

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