

Newell, J. 2004. *The Russian Far East: A Reference Guide for Conservation and Development*. McKinleyville, CA: Daniel & Daniel. 466 pages



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CHAPTER 1

Overview

Location

The Russian Far East (RFE) comprises the eastern third of the Russian Federation (see map 1.1) and is bordered by China to the south and North Korea to the southeast (see map 1.2, Geographic regions, p. 13). The RFE's Sakhalin Island and Primorsky Krai are less than 50 and 200 km from Japan, respectively. In the far northeast, the narrow Bering Strait separates Chukotka from Alaska. Together, China (north of Shanghai), North and South Korea, Japan, and the RFE form Northeast Asia. Vladivostok, the largest city on the eastern seaboard of the RFE, is more than 9,000 km and seven time zones away from Moscow.

Size

More than two-thirds the size of the United States, the RFE covers 6.63 million sq. km, or 40 percent of the Russian Federation. The Republic of Sakha alone is twice the size of Alaska.

Climate

With frigid winters in northeastern Sakha, the coldest point in the northern hemisphere (-71°C), and sweltering summers along the Amur and Ussuri River basins in the south (40°C), climate zones in the RFE range from arctic to nearly subtropical. Mountain ranges break up these zones into irregular flows as temperate conditions reach far north along the Pacific coast, while subarctic conditions persist on high mountain ridges in the south. The Pacific Ocean and the Sea of Japan bring a monsoon climate to the southern RFE (Primorsky and Khabarovsk Krai, Amur Basin, and southern Sakhalin). Summer is humid in these regions, as monsoon storms blow in from the south. Autumn is dry and warm, with occasional heavy rainfall from typhoons, particularly in Primorsky Krai. Winter is cold and dry because strong air masses flow east from Siberia. Spring is long and cool.

A Siberian, or continental, climate defines the interior of Magadan Oblast and western Amur Oblast, and the entire Republic of Sakha. Summer is short but warm. Winter is long, dry, and very cold. The mountains along the Pacific coastline prohibit the maritime climate from warming the interior. Almost 75 percent of the RFE is dominated by permafrost, or eternally frozen ground, which melts on the surface in summer, providing moisture, but allows for little cultivation of land.

Geography and ecology

Plateaus, mountain ranges, and peaks from about 1,000 to 3,000 m high cover approximately 75 percent of the RFE. The great volcanoes of Kamchatka are still higher with Klyuchevskoi Volcano rising to 4,750 m. Plains cover the remaining 25 percent of the region;

the most fertile are located along the Amur River and its main tributaries—the Zeya, Bureya, and Ussuri Rivers. Because these plains are most suitable for growing crops, most people have settled here.

The Arctic Ocean extends along the northern coast to the Bering Strait, which separates the RFE from Alaska. The Pacific Ocean borders the eastern coast down to the Kuril Islands. Tucked away like a pocket, the Sea of Okhotsk, perhaps the richest fishery in the world, is enclosed by the Kuril Islands, northern Japan, and the eastern RFE. The Sea of Japan brings warm ocean currents to the shores of Primorsky Krai and southern Sakhalin.

The vegetation cover follows the same irregular horizontal flows as do the climate zones. Temperate forests reach far into the north, and subarctic vegetation extends south along mountain ridges. Broadly speaking, there are four main vegetation belts:

- **Arctic tundra** (patches of moss, sedge, and various grasses) grows in a thin belt along the Arctic Ocean coastline in the far northern regions of Sakha and Chukotka.
- **Tundra** grows further south, forming a thin belt in Sakha, but covering most of Chukotka and northern Kamchatka, portions of Magadan Oblast, and mountains farther south. In winter, this region is barren, frigid, and desert-dry. In summer, a dense carpet of gray lichen covers the tundra landscape, forming the food base for animals and migratory birds. In southern tundra zones, dwarf Japanese stone pines (*Pinus pumila*) and Dahurian larch (*Larix gmelini*) grow in unusual horizontal formations, stunted by the wind, shallow soil, and cold, dry climate. Some large trees, mostly larch, grow along the major rivers and are interspersed with poplars (*Populus*), chosonia (*Chosonia arbutifolia*), and willows (*Salix*).

Key issues and projects

Protect wild places

This book describes fifty-eight biodiversity hotspots identified by Russian specialists that should be either protected or developed with ecosystem sustainability as a top concern. Increasing demand for resources and looming land privatization will make such protection more difficult. Russian and international groups need to continue their support of Russia's protected area system and bolster those government agencies responsible for environmental management (see pp. 39–45).

Increase regulatory control over resources

The failure of impoverished and often corrupt government agencies to regulate resource use has led to widespread poaching, destruction of stocks, and disruption of the ecological balance in many areas of the RFE.¹ Illegal trade in endangered species reached peak levels in the 1990s and continues largely unabated.²

Increase manufacturing capacity

Exporting raw materials (timber, fish, metals, oil, and gas) to Japan, China, and South Korea, at the expense of developing a manufacturing base, is neither economically nor environmentally sustainable. Increasing the amount of value-added processing would increase revenue both to the regional and federal government and to Russian manufacturers. It would also create more jobs and could reduce pressure to open new areas for resource extraction.

Ensure resource development protects the environment, benefits society, and diversifies the economy

The massive oil-and-gas projects planned (offshore Sakhalin, Siberia-China Yukos pipeline, Siberia-RFE-China Transneft pipeline) will lead to large-scale investment, but benefits to local communities are in no way ensured and, some argue, unlikely. By prioritizing export markets and neglecting domestic markets, while also ignoring the need to convert polluting coal-thermal stations to cleaner natural gas ones, these projects may only exacerbate the RFE's energy crises. Gold-mining projects in Magadan create revenue for government coffers, but they also have a short life span, damage sensitive areas, and may not reduce poverty.

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- **Taiga**, the large mass of boreal forest that forms the heart of the RFE, extends as a broad belt between 70 and 50 degrees latitude. Farther south, the forest composition gradually becomes more complex, although tundra can still be found along the mountain ranges. The north is dominated by Dahurian larch forests that grow well on permafrost. In central and southern regions, spruces (*Picea obovata*, *P. ajanensis*), Korean pine (*Pinus koraensis*), firs (*Abies*), and Scots pine (*P. silvestris*) begin to appear.
- **Conifer-broadleaved** forests grow below the taiga zone along the Sikhote-Alin Mountain Range, which extends along most of Primorsky Krai and into southern Khabarovsk Krai. Russians call these forests the Ussuri Taiga, named after the Ussuri River, which flows northwest from the Sikhote-Alin Mountains and drains into the Amur River. Conifer-broadleaved forests also grow south of the Sikhote-Alin range, just east of the North Korean and Chinese borders. Escaping the last glacial period, the forests in these regions have evolved to become one of the most diverse assemblages of plant and animal species in temperate forests anywhere on the planet.³ Tree species of the boreal forest thrive here together with temperate and subtropical species such as Korean pine, varieties of maple (*Acer*), birch (*Betula*), fir, and lime (*Tilia*). Southern vines and medicinal plants, such as the famed ginseng (*Panax ginseng*) and eleutherococcus (*Eleutherococcus senticosus*), combine to form an intricate mix of flora. These forests also support the majority of the RFE's rare and endangered species. Similar forests once covered areas of China, Korea, and Japan, but they have largely been destroyed.

Similar mixed forests, composed of a different set of tree species, exist on southernmost Sakhalin Island, Moneron Island, and the Kuril Islands. Farther inland, the southernmost portions of the RFE are covered with broadleaved forests of Mongolian oak (*Quercus mongolicus*), chernozem ('black earth') prairies, and steppes of the Amur Valley. See appendix A for listings of the major topological features in the Russian Far East.

Flora and fauna

The Arctic regions provide habitat for the snowy owl (*Nyctea scandiaca*), arctic fox (*Alopex lagopus*), numerous sandpipers (*Calidris*), eiders (*Somateria*), lemmings (*Lemmus*, *Dicrostonyx*), reindeer (*Rangifer tarandus*), and many other fauna. Wrangel and Herald Islands in Chukotka boast the highest denning population of polar bears (*Ursus maritimus*), as well as the largest concentrations of walrus (*Odoboenus rosmarus*) and snow geese (*Anser caeruleus*) in the world. Most of the world's population (fifty thousand) of Ross's gulls (*Larus roseus*) nest in the northern RFE. The Republic of Sakha is a major nesting site for the two thousand remaining Siberian cranes (*Grus leucogeranus*).

Kamchatka Peninsula supports the world's largest population of brown bears (*U. arctos*), estimated at 7,500. In its rivers and along its shores are the world's most abundant salmon stocks (including king salmon, which can reach almost 2 m in length), and it is the only place with all six species of Pacific salmon: king (*Onorhynchus tshawytscha*), sockeye (*O. nerka*), coho (*O. kisutch*), pink (*O. gorbuscha*), chum (*O. keta*), and masu (*O. masu*).⁴ Scientists estimate that more than half of the wild Pacific salmon can be found in the RFE.⁵

Huge populations of northern fur seal (*Callorhinus ursinus*), Steller's sea lion (*Eumetopias jubatus*), and sea otter (*Enhydra lutris*) congregate along the Sea of Okhotsk and Kamchatka coastlines. More than two-thirds of the total seabird population of the former USSR, an

estimated 4.5 million pairs (which includes all remaining Steller's sea eagles [*Haliaeetus pelagicus*]), breed along the Bering Sea and Sea of Okhotsk coastlines. The taiga forests teem with brown bears, wolves (*Canis lupus*), sable (*Martes zibellina*), squirrels (*Sciurus vulgaris*), lynxes (*Felis lynx*), moose (*Alces alces*, *A. americanus*), Manchurian wapiti (*Cervus elaphus*), wild boars (*Sus scrofa*), wolverines (*Gulo gulo*), and hundreds of species of birds.

The Amur and Ussuri River basins provide habitat for four of the world's species of cranes.

The Ussuri Taiga is home to the estimated 250–400 remaining Amur, or Siberian, tigers (*Panthera tigris altaica*), the largest cats in the world (see pp. 106–09). Other endangered species sharing this ecosystem include the Himalayan bear (*Ursus thibetanus*), goral (*Nemorhaedus caudatus*), Blackiston's fish-owl (*Ketupa blackistoni*), yellow-throated marten (*Martes flavigula*), Amur cat (*Felis euphilura*), scaly-breasted merganser (*Mergus squamatus*), sika deer (*Cervus nippon*), Mandarin duck (*Aix galericulata*), and endemic Siberian grouse (*Falciennis falciennis*). Far Eastern leopards (*Panthera pardus orientalis*), with a population of only about 30, inhabit the Manchurian fir (*Abies holophylla*) forests in the far south of Primorsky Krai. In all, there are more than 2,500 species of vascular plants, almost 100 mammalian species, 400 species of birds, and more than 200 species of butterflies in Primorsky Krai alone.

Largest cities

Vladivostok (pop. 613,100)
 Khabarovsk (pop. 617,800)
 Komsomolsk-on-Amur (pop. 309,400)
 Petropavlovsk-Kamchatsky (pop. 256,000)
 Blagoveshchensk (pop. 225,200)
 Yakutsk (pop. 194,000)
 Nakhodka (pop. 159,800)
 Yuzhno-Sakhalinsk (pop. 180,000)
 Ussuriisk (pop. 158,400)
 Magadan (pop. 115,000)

Population

There are just over 7 million people living in the RFE. Between 1928 and 1959, with the influx of prisoners to the local labor camps, the population grew from about 1.5 million to almost 5 million. Today, with about 1.1 inhabitants per sq. km, it is still one of the world's least populated regions per capita, and much lower than the Russian national average of



Yuri Shibnev

Parides alcinoi is one of the rarest butterflies in the RFE. Its larvae feed on an endangered plant; adult butterflies have almost been wiped out by commercial collectors.

Table 1.1
Population of the RFE, 2000

	Total	Persons per sq. km	Percentage living in rural areas	Percentage living in urban areas
Russian Far East	7,098,200	1.1	24%	76%
Primorsky Krai	2,157,700	13.1	22%	78%
Khabarovsk Krai	1,506,700	1.9	19%	81%
Amur Oblast	997,500	2.7	35%	65%
Republic of Sakha	973,800	0.3	36%	64%
Sakhalin Oblast	590,600	6.8	23%	77%
Kamchatka Oblast	378,300	5.3	19%	81%
Magadan Oblast	227,200	0.5	7%	93%
Jewish Autonomous Oblast	197,500	5.5	32%	68%
Chukotka Autonomous Okrug	68,900	0.3	32%	68%
Koryak Autonomous Okrug	28,500	0.1	74%	26%

Note: De facto population figures are used for this table, but in some of the regional chapters de jure figures are used.

Source: Goskomstat, 2001.

8.7 inhabitants per sq. km. As table 1.1 shows, most of the population lives in the southern part of the RFE, particularly Primorsky Krai (2,157,700), Khabarovsk Krai (1,506,700), and Amur Oblast (997,500), where the climate is warmer and the land is more suitable for agriculture. For the last ten years, the population of the RFE has steadily declined partly due to declining birth rates throughout Russia but also to migration back to European Russia, stemming from economic crisis. Population decline has been particularly marked in the northern regions, such as Magadan Oblast and Chukotka. About 76 percent of the RFE's total population is urban. Koryakia, however, remains primarily rural; large settlements of indigenous peoples remain. According to a census done in 1989, there are about 90,000 indigenous peoples in the RFE, and most live in rural areas (see p. 101 for complete statistics).

Political status

Perestroika brought with it a strong movement for greater regional autonomy, in that the Yeltsin administration encouraged decentralization. During this period, the Russian government raised the political status of some RFE regions. Chukotka, Koryakia, and the Jewish Autonomous Oblast (JAO), for example, are no longer parts of other *oblasts* or *krais*, but are equal members of the Russian Federation. The Republic of Sakha now enjoys more political autonomy than Chechnya ever asked for. Since the dissolution of the USSR, the priorities and character of individual areas within the RFE have become much more diverse, even though the region is often thought of as a unified whole.⁶

In search of greater power, some local governors have routinely blamed Moscow for their problems, eventually creating strong anti-Moscow and even periodic separatist sentiment among the local populace. Primorsky's former governor Evgeny Nazdratenko, for example, defined his political career by defying Moscow's authority and launching allegations of a sellout of the *krai's* land and resources to the Chinese (see p. 143). Other local governors enjoy much better working relations with Moscow. President Vladimir Putin has tried to reverse the trend toward decentralization.

The RFE currently includes five *oblasts* (one autonomous), two *krais*, two autonomous *okrugs*, and one republic. Despite different designations, their status is more or less equal, with the exception of the Republic of Sakha. Their degree of autonomy is roughly equivalent to that of the Canadian provinces, with Sakha being comparable to Quebec, or, more accurately, Nunavut.

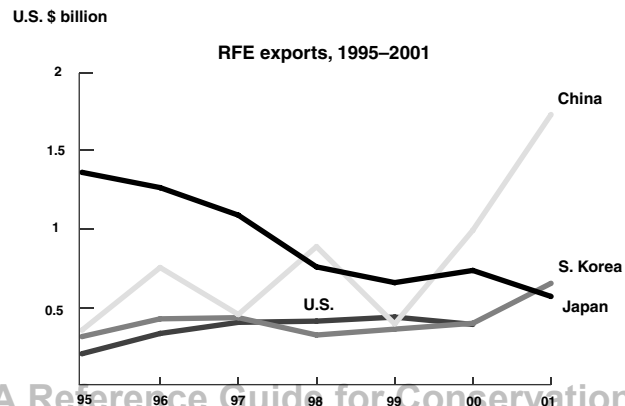
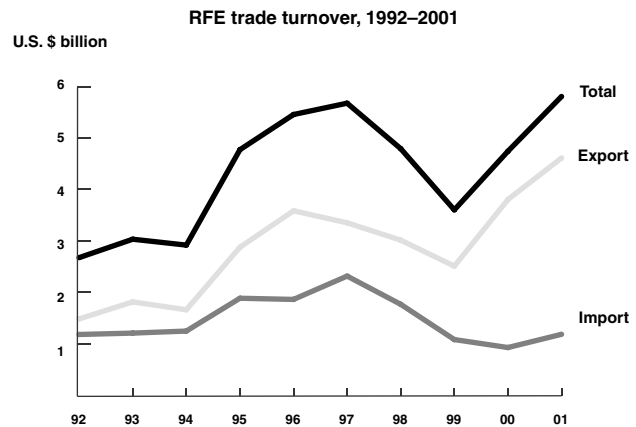
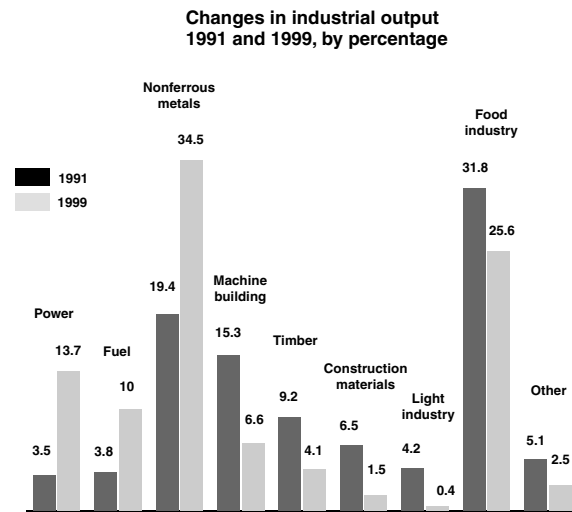
Natural resources

Decades of large-scale, wasteful extraction, combined with raw materials export reliance, have diminished the RFE's accessible minerals, timber, and other materials.⁷ According to forest service estimates, there are over 21 billion cu. m of timber reserves in the RFE, but over half of these are in Sakha, where the trees are primarily larch and too thin to be commercially viable (see appendix B for a listing of the forest resources of the RFE). About forty percent of RFE forests remain inaccessible due to mountainous landscapes and lack of infrastructure; forests near railroads and population centers, however, are heavily overlogged. In addition, forest distribution is uneven, with most timber production in the southern RFE (Khabarovsk and Primorsky Krai, Amur and Sakhalin Oblasts). These southern forests also have many important nontimber forest products (NTFPs) such as mushrooms, pine nuts, ferns, ginseng, and other medicinal plants.

There may be as much as 19 billion tons of coal in RFE reserves (mostly in Sakha). Oil and gas are found mainly on Sakhalin Island and in Sakha, and offshore along most of the RFE coastline. Wind, solar, and geothermal energy reserves also have strong potential. Gold and silver reserves are found mainly in the Magadan, Sakha, Chukotka, Khabarovsk, Amur, and Kamchatka regions. Sakha boasts the world's second largest reserve of diamonds. Most of the RFE's confirmed 4.4 billion tons of iron ore deposits are found in southern Sakha. Koryakia and Khabarovsk regions are emerging as major suppliers of platinum and palladium. Other important metals located in the RFE include tin, antimony, tungsten, mercury, lead, and zinc.⁸

Marine resources are arguably the RFE's greatest resource asset, with fish stocks estimated at 29 million tons. Crab, pollock, and salmon are the most commercially lucrative species. Other important species include herring (*Clupea pallasii*), flatfishes, shrimp, scallops, sea cucumbers, seaweed, and sea urchins (mostly *Strongylocentrotus*). These resources are distributed in the Sea of Okhotsk, in the coastal waters around the northern Kurils, in the Sea of Japan, the Bering Sea, and along the eastern shores of Kamchatka.

Figure 1.1
Industrial production and trade in the RFE



Sources: Production data from Kontorovich, 2001; Trade data from the Far East and Zabaikalye Association, 2002.

Main industries

Soviet planners developed industries in the RFE primarily to manufacture military equipment and supply raw materials, constructing entire cities (with names such as *Uglegorsk* [coal town] or *Neftegorsk* [oil town]) around the extraction of one or a few resources. During the Soviet era, about half of the RFE's industrial output was related to defense.⁹ No longer propped up by federal subsidies and a state-controlled economy, production levels in all of the RFE industries plummeted between 1989 and 1999 before beginning to rebound in 2000. Manufacturing capacity, however, remains at pre-1980 levels.¹⁰ Figure 1.1 shows the increased reliance of the economy on resource extraction and export. In 1991 the major manufacturing sectors (machine building, light industry, etc.) formed a much larger percentage of total industrial production than they do now. Machine building was closely connected to military production. The sharp drop in orders for battleships, Black Shark attack helicopters, and Sukhoi fighter planes has transformed many of the region's thirty-two defense plants into museums of rusting cranes, assembly hangars, and Soviet-era trucks.

Mining (nonferrous metallurgy), food (especially fishing), and power generation are now the RFE's largest industries. Three of the RFE's ten administrative regions (Sakha, Khabarovsk, and Primorsky) combine to produce about two-thirds of the region's Gross Regional Product (GRP).¹¹

Infrastructure

Mountainous terrain, severe weather, and low levels of federal capital investment have largely limited infrastructure to the southern RFE, where the two major railroads—the Trans-Siberian and the Baikal-Amur Mainline (BAM)—run parallel to each other in an east-west direction. Most industries have developed along these lines. Spurs connect the two railroads in Amur Oblast and Khabarovsk Krai, and a spur from the BAM reaches southern Sakha, but not as far as the capital, Yakutsk. Sakhalin's railroad, which extends to the island's center, was built by the Japanese when they controlled the island's southern half; this railroad connects to the mainland (through Vanino port) by regular ferry line.

The northern regions have no railroads and few paved roads because permafrost makes construction difficult and expensive. When traveling long distances, people from Sakha, Magadan, and Kamchatka usually travel by air. Rivers are also important for passenger transportation and shipping goods in summer and are used as roads when they freeze over in winter. The major international airports are in Vladivostok and Khabarovsk. Airports in Kamchatka and Sakhalin are expanding. The largest ports in the RFE are Vostochny, Nakhodka, and Vladivostok in Primorsky Krai; Vanino and Sovetskaya-Gavan (Soviet Haven) in Khabarovsk Krai; Kholmsk on Sakhalin Island; and Petropavlovsk-Kamchatsky in Kamchatka.

Existing infrastructure is old, and the Russian government generally lacks funds to maintain it. Many foreign investors, particularly Japanese, believe infrastructure to be the greatest obstacle to more investment. Driven by resource demand in Asia and faced with a growing scarcity of accessible resources, new infrastructure projects are under way throughout the RFE. A federally funded highway under construction from Chita to Nakhodka is opening up Sikhote-Alin forests for logging. The Khabarovsk government and timber companies want to build a road east from the village of Sukpai to the port town of Nelma on the Sea of Japan to reduce the cost of exporting logs to Japan.

Russian policymakers and international associations are promoting the East-West Corridor project to attract financing to upgrade and expand RFE rail, port, and road infrastructure and streamline customs procedures. These upgrades would facilitate resource extraction and enhance the region's role as a transit point for goods from China and Europe. Oil and gas development will spark infrastructure expansion on Sakhalin Island over the next decade as companies expand ports and construct pipelines, plants, and maintenance roads. Oil and gas pipelines (and roads to build and service them) may be built through Khabarovsk, from central Sakha to China, and from Eastern Siberia (Angarsk) across the RFE to Primorsky Krai.

Building the infrastructure required to access fuel and timber resources and transport them to consumers comes with environmental costs. Sakhalin ecologists are concerned oil and gas pipelines and roads will impact salmon rivers and open up new areas of wilderness. The Nelma-Sukpai logging road would bisect the Samarga watershed, a biodiversity hotspot and one of the largest pristine watersheds left in the southern part of the RFE. Biologist Dale Miquelle has documented the negative impacts of road infrastructure on tigers in this region.¹²

Foreign trade

The RFE economy today essentially relies on the export of four primary natural resources: precious metals and gems (gold, silver, platinum, diamonds), marine products (especially king crab, pollock, salmon), raw logs, and fuel (high-quality coking coal and crude oil). These four categories account for about 80 percent of all export earnings.¹³ The RFE also exports a limited quantity of manufactured items (machinery, equipment, processed wood products), such as Khabarovsk-built jet fighters to China. Four countries—China, Japan, South Korea, and the United States—altogether account for about 60 percent of all RFE foreign trade. Trade has more than doubled since 1992 and totaled about U.S.\$6 billion in 2001 (see fig. 1.1).

Exports have risen sharply but imports have not, remaining at 1992 levels (U.S.\$1 billion). Imports are primarily manufactured goods, because of the RFE's limited manufacturing capacity. An underdeveloped wood-processing industry, for example, makes it necessary to import furniture from places as distant as Finland. The RFE used to rely heavily on imported packaged foods, such as butter from Australia, but Russian food products (many of which are made in European Russia) now line most shelves.

In just the past few years, China has overtaken Japan as the most important trading partner for the RFE. Chinese demand for Russian logs is booming, with 2002 imports more than double Japan's annual log import.¹⁴ But Japan remains the key market for the region's most lucrative export: marine products (although Chinese imports of that resource are climbing rapidly). South Korea, Japan, and China are the primary markets, so far, for tanker shipments of Sakhalin oil. Of the U.S.\$578 million in products exported from the RFE to South Korea in 2000, almost 60 percent was crude oil.

Trade statistics underestimate actual trade. Russian customs officials confirm that as much as U.S.\$2.5 billion of fish products are exported illegally each year (see p. 58). Official figures of log exports are also dubious, with illegal trade prevalent across the shared, porous border between Russia and China. Much of the Russian-Chinese trade is by barter, which further complicates the export picture. Taking into account unreported fish and timber products, annual RFE exports are closer to \$8–9 billion than \$6 billion (official figures).

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See appendix C for foreign trade by RFE region, and see appendix D for total trade turnover.

Economic importance in the Russian Federation

Although the RFE produces only about 5 percent of Russia's total industrial output, it has a number of resources critical to Russia's economy, including:

- About 75 percent of Russia's fish and marine products
- Virtually all of Russia's diamonds and tin
- About 50 percent of the country's gold
- About 10 percent of all timber production and 30 percent of log exports
- About 25 percent of Russian platinum
- About 14 percent of coal production and 40 percent of the country's total reserves
- Almost 50 percent of all lead
- More than 90 percent of fluorspar
- A growing percentage of Russia's oil and gas exports

General outlook

Despite more than a decade of sweeping privatization and radical political restructuring, the aging and inefficient military-industrial complex built by the Soviets remains largely intact.¹⁵ High energy and transport costs combined with lack of investment have crippled manufacturing and devastated local communities dependent on the industry for jobs and revenue. An erratic energy supply also hinders steady factory production and leaves many people without heat in their homes.

A few areas in the RFE, such as Sakha (with its strategic diamond industry) and Magadan (with its gold industry), retain close economic ties with Moscow, but most of the region survives by supplying raw materials to resource-poor countries in Northeast Asia. The Chinese, Japanese, and South Korean markets now eclipse the region's economic ties to European Russia.¹⁶ Pipelines are being planned to transport crude oil and natural gas across Sakhalin to refineries in Japan and South Korea. Roads are being built to carry Korean pine, larch, and ash logs to sawmills in China and Japan. Coal deposits are being mined to export coking coal to steel factories in Japan. Foreign-built trawlers and drift-netters and refitted U.S. crabbers now ply the seas to harvest pollock, salmon, and king crab to sell to canneries in China, Japan, and the United States. Once a resource colony for the Soviets, today the RFE is essentially a resource colony for the northern Pacific Rim. China, with its rapidly growing natural-resource deficits, is the region's largest trading partner and will have a huge impact on the development patterns of the RFE in the coming decades.

The RFE's present economic reliance on natural resource exports is not the path to sustainable development. Indeed, the region supplies evidence that economies based on extractive industries grow more slowly, fail to employ a significant portion of the population, and may exacerbate poverty.¹⁷ Both the International Monetary Fund (IMF) and the World Bank have urged Russia to diversify its economy by developing domestic manufacturing and noncommodity sectors.¹⁸ Manufacturing would create jobs for the region's unemployed, many of whom resort to poaching and illegal harvesting to secure income.

Investment in manufacturing is unlikely to come from Moscow, which has drastically reduced funding to the region. Government planners and industry representatives in the

RFE continue to hope foreign investors will bring the necessary capital, technology, and know-how. To date, however, foreign direct investment (FDI) in the region has not increased manufacturing. Instead it has increased industry's capacity to extract and export raw materials. Ironically, most foreign investment projects are subsidized and facilitated by international financial institutions such as the World Bank that counsel against such overdependence.

The Russian government meanwhile continues to combat what is perhaps the RFE's most intractable problem: illegal resource harvest. The inability of regulatory agencies to control this problem threatens to wipe out species (such as Korean pine, ash [*Fraxinus*], crab, pollock [*Theragra, Pollacius*], and ginseng) in high demand by Asian markets. This inability also reduces government revenue, discourages domestic and foreign investment, drives down resource prices (making it harder for honest firms to compete), and hinders efforts to certify environmentally responsible firms. Combating illegality has proven particularly formidable because of federal budget constraints, the decentralization of government environmental agencies, and the proliferation of small firms in need of regulation. The greatest obstacle to reform, however, may be corruption in the regulatory agencies themselves. For corrupt officials, bribes and illicit business enterprises are highly lucrative.

Importers and government agencies from China, Japan, and South Korea could assist Russian regulators by requiring chain-of-custody documentation for resources. This would allow certification for businesses practicing legal and sustainable harvesting and export methods. Consumers, in turn, could then demand imports from certified Russian firms. But consumer countries will also have to curb wasteful resource consumption, which may pose the greatest long-term threat to the natural ecosystems of the RFE.

The 1990s witnessed remarkable social change in Russia, with the emergence of non-governmental organizations (NGOs) and independent media championing causes ranging from human rights to nuclear pollution, and the collaboration of these groups with organizations and individuals across the globe. Indigenous peoples also formed associations to claim legal right to their traditional lands, efforts which have often been resisted by industry and regional governments fearing the loss of access to natural resources. One of the great successes coming out of the 1990s was the creation of new protected areas in many parts of the RFE (the percentage of protected land in the RFE, however, remains low). But 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*

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