RECENT DEVELOPMENTS OF THE SINO–RUSSO TIMBER TRADE IN THE AMUR BASIN

YAMANE MASANOBU
Kanagawa prefecture Natural Environment Conservation Center

Keywords ; China-Russia timber trade, Amur basin, transportation path, trade flow and panel data analysis

I. INTRODUCTION

An analysis of China's trade flows of the past ten years reveals that among various forest products, it is log imports that have increased the fastest in both proportion and volume. For example, from 1996 to 2005, the country's total log imports grew from 3,186,000 cubic meters (m^3) to 26,309,000 m^3, meaning that the import volume grew by a factor of more than seven over ten years. It should be noted that the annual incremental growth in volume roughly corresponds to the reduction in China's domestic timber supply, which is linked to the implementation of its Natural Forest Protection Project (NFPP). Over the same period, the share of Russian timber as a share of China's total timber imports shot up from 17 percent in 1996 to 68 percent in 2005, suggesting that logs from Russia have been making up for China's supply-demand gap.

Timber is transported from Russia to China by rail, ship, ferry, and truck, but the majority is moved by rail. As shown below, most of the timber transported from Russia to China passes through inland border corridors.

Several studies were conducted on the condition of the Sino–Russo inland border timber trade in its earlier stage of development (i.e., Yamane and Lu 2000), but no detailed studies on its progress and prospects have been published since, despite its continued growth.

Thus, the purpose of this paper is to provide an outline of recent Sino–Russo timber transportation routes and timber flows, as well as the progress of development, with the goal of further clarifying the details and characteristics of changes that have occurred. A preliminary analysis is later provided on timber trade statistics for individual customs gateways on China's side of the Amur Basin, as well as an outline of the latest changes in timber trade policy of both countries. Finally, the impacts of the latest policy changes on the future of Sino–Russo timber trade flows are discussed.

II. TRANSPORTATION ROUTES AND THEIR DEVELOPMENT

1. Variation of route

The routes used to transport timber from Russia to China can be roughly divided into the following:

i. From Eastern Siberia or the Russian Far East by rail on branch lines of the Trans-Siberian Railway to the border, and then by rail or truck into China.
ii. From near border areas and then carried across to China by truck or ferry.
iii. From Eastern Siberia or the Russian Far East by rail on the main line of the Trans-Siberian Railway to timber export seaports such as Nakhodka and Vladivostok in Primorsky Krai, and then shipped to seaports in China such as Dalian and Tianjin.
iv. From Eastern Siberia or the Russian Far East by rail along the Baikal-Amur Railway to Russian timber export seaports such as Vanino and Sovgavan. A variation of this route is often used, where logs are exported from Nikolayevsk-na-Amurla at the river's mouth. Recently, as river transportation on the Amur River has opened up for trade, routes leading to China's river ports have also gradually been opened up. Among such sea-to-river routes, there is a new one that starts at a seaport such as De-kastri and Sizuman, and then up the Amur River to river ports in China. In this case, logs are sometime reshipped from Nikolayevsk-na-Amurla.
v. From Khabarovsk and Primorsky Krai by truck directly to timber export ports such as Olga, and then shipped to major seaports such as Dalian, Qingdao, etc.

From among these five routes, the first two have been the main ones used to export timber from Russia to China. More than 80 percent of the timber trade between the two countries in 2004 crossed via inland border points (Figure 1).

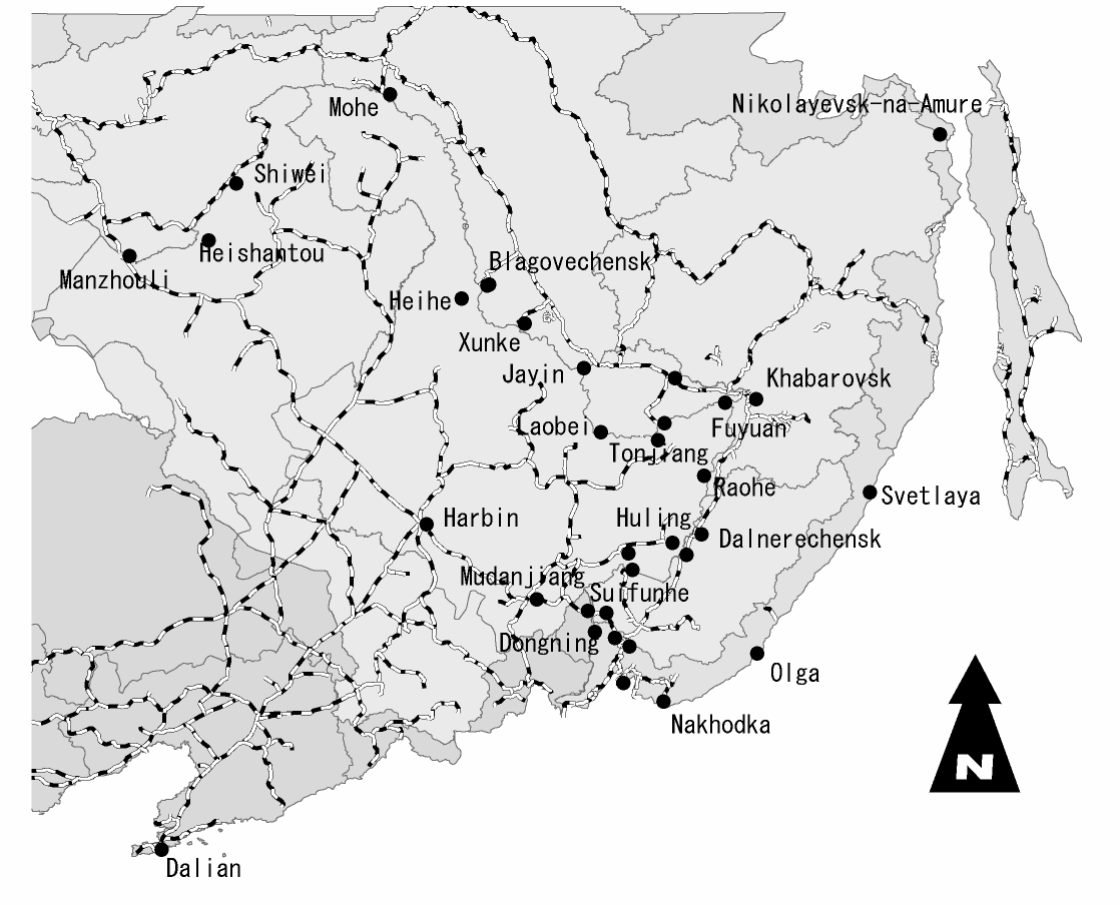

Figure 1. Maps of Amur Basin.

2. Gateways along the main Amur River watershed

In the main channel of the Amur River watershed of the Amur Basin, the Manzhouli gateway in the Inner Mongolia autonomous region is the only route connecting directly to Russia's Zabaykalsk, Chita Oblast. There are also two small routes used in the province, and eight small or medium-sized gateways in China's Heilongjiang province, where Russian timber is transported by truck or ferry from Amur Oblast, Jewish Autonomous Oblast, and Khabarovsk Krai (Table 1).

Among them, Manzhouli is the major gateway. In 1992, this once-small border city was one of the first inland border cities opened up by the People's Republic of China. After 2000, the city developed dramatically, including construction of a new domestic airport connecting to Beijing and Harbin, as well as highways leading to Harbin, the capital of Heilongjiang province, through Hailar. Manzhouli started establishing an import material-processing zone in 2003, and the project has progressed steadily since. A wood-processing area was established in the zone in 2004, and now more than 40 Russian wood-processing enterprises are in operation there. As log imports from Russia increased, freight yards were enlarged in 2004 to expand capacity, and a new yard is planned for construction in 2008.

The Heihe gateway in China, which connects to Blagoveshchensk, the capital of Amur Oblast, was established as a free trade zone on the border, and includes relatively new construction projects such as a cross-border river bridge and highways leading to Harbin. The Tongjiang gateway, which connects to Leninskoe in Jewish Oblast, also had its river port upgraded to increase capacity. The city also has highway construction projects leading to Harbin. Other small gateways on China's side such as Mohe and Fuyuan have also been expanding their gateway capacity.

3. Gateways in the Ussuri watershed in the Amur Basin

In the Ussuri watershed of the Amur Basin, the Suifunhe gateway in Heilongjiang province is the only corridor connecting directly by rail to Russia's Grodekovo station (in Pogranichnyy) in Primorsky Krai. The distance to Ussuriysk and Vladivostok is 123 kilometers (km) and 230 km, respectively. Suifunhe was opened up as one of the first border cities, like Manzhouli and Heihe, in 1992, and is a core of Sino–Russo timber trade, especially from the southern part of Far East Russia.

The railroad gateway is a 24-hour operation with an annual handling capacity of more than six million m^3 having been expanded in stages since 2000, and now the improvement of its cargo terminal station (Suifunhe North Station) has been completed. The gateway has a road connection with Russia, constructed in 1990, and it connects with a highway leading to China's Harbin through Mudanjiang. An already approved highway project will connect to Manzhouli.

Other small routes include the Bikin–Raohe (or Jao-ho) river corridor (Khabarovsk Krai to Heilongjiang province), the Markovo–Hulin river bridge corridor (Primorsky Krai to Heilongjiang province), the Turiy Rog–Mishan land corridor (Primorsky Krai to Heilongjiang province), and the Poltavka–Dongning road corridor (Primorsky Krai to Heilongjiang

province). Trucks can cross the border along the Bikin–Raohe and Markovo–Hulin corridors during the winter when the rivers freeze.

Among the small gateways on the China side, Dongning, which lies near Suifunhe, around 154 km from Ussuriysk in Primorsky Krai, has grown rapidly in the last five years. The first stage of construction along the corridor of the Dongning–Poltavka border trade zone was completed by 2005, and then the town began trial operations of its Sino–Russo international trade market. The small border town has already seen branch highways constructed to connect to the Suifunhe–Harbin route. Additionally, previously suspended rail operations on the railroad connecting to the Mudanjiang–Suifunhe line were resumed and extended to the border, and the Dongning railroad station was also established. The plan is to connect this railroad to the railway on the Russian side, which leads to Ussuriysk, a project already approved by Russia's central government. Once this project is completed, this improved corridor will have a transport capacity as great as the Suifunhe–Grodekovo corridor. In addition to these upgrades, the Raohe customs office was completed renovated and expanded its handling capacity. There are also several other projects being planned, such as the construction of a bridge crossing the river, a free trade zone, and a highway development leading to Harbin through Fujin.

In contrast to these improvements on China's side, gateway improvements on Russia's side still lag behind, with no significant progress since the Soviet era, although railroad construction connecting to Dongning and the improvement of loading capacity at the Grodekovo station are being considered.

Table 1. China's border gateways to Russia in the Amur Basin

Watershed	*Large gateway*	*Small/medium-sized gateway*
Main Amur	*RW, RD: Manzhouli in INM*	*WT: Heishantou, Shiwei in INM* *WT: Moho, Heihe, Sunwu, Xunke Jiayin, Luobei (Fujin), Tongjiang Fuyuan in HJN*
Ussuri	*RW, RD: Suifunhe in HJN*	*WT: Raohe in HJN* *RD: Mishan and Dongning in HJN* *RD: Hulin in HJN*

Notes: INM = Inner Mongolia autonomous region; HJN = Heilongjiang province
RW = railway connection; RD = road connection; WT = water connection

III. TIMBER FLOWS FROM THE AMUR BASIN THROUGH LAND BORDER GATEWAYS

1. General trend

The volume of timber flowing from the Amur Basin in Russia to China increased significantly from 1996 to 2005, growing from 476,000 m^3 to 15,872,000 m^3, in tandem with the trend of China's total timber imports (Table 2). The share of the basin's timber trade

against total imports is around 80 percent, indicating that the Amur Basin is a core area of Sino–Russo timber trade. Softwood and hardwood logs are the main imports, at more than 90 percent, but this share has been dropping gradually.

In comparing the two watersheds, the Ussuri and the Amur, the volume of timber flow from the Ussuri watershed was more than 60 percent in 1996 compared to the basin's total, and was larger than that from the main Amur Basin. In 1997, however, the flow from the main Amur Basin reached a 50 percent share and then increased to around 60 percent. As for the types of log exports from Russia to China, there are major flows from both watersheds, but the flow of sawn wood from the main Amur watershed has increased gradually since 2002. The share of sawn wood imports from the main Amur watershed was 50 to 70 percent, and this fact indicates that the Zabaykalsk–Manzhouli corridor has been the main route for the Russian sawn wood trade. This is because most imported sawn wood is processed at enterprises located in remote areas such as Irkutsk in East Siberia and Krasnoyarsk in West Siberia, and then transported to China by rail.

Table 2. Timber import volume from Russia to China with a special focus on the Amur Basin

Unit: 1,000s of cubic meters (m^3)

Water-shed	*Main Amur*				*Ussuri*				*Amur Basin*		*China's total imports from Russia*	
Gateway	*Manzhouli*		*Others*		*Suifunhe*		*Others*					
Year	*LG*	*SW*	*LG*	*SW*	*LG*	*SW*	*LG*	*SW*	*LG*	*SW*	*LG*	*SW*
1996	*147*	*3*	*19*	*1*	*272*	*4*	*30*	*0*	*468*	*8*	*529*	*11*
1997	*382*	*6*	*14*	*0*	*381*	*4*	*14*	*0*	*791*	*10*	*949*	*11*
1998	*665*	*7*	*16*	*1*	*561*	*2*	*8*	*1*	*1,250*	*11*	*1,591*	*12*
1999	*1,784*	*41*	*135*	*8*	*1,341*	*14*	*18*	*4*	*3,279*	*66*	*4,305*	*82*
2000	*2,070*	*82*	*144*	*7*	*2,038*	*32*	*10*	*3*	*4,261*	*125*	*5,931*	*158*
2001	*2,932*	*182*	*457*	*1*	*3,144*	*—*	*4*	*—*	*6,537*	*—*	*8,766*	*308*
2002	*5,264*	*383*	*624*	*15*	*4,678*	*90*	*6*	*31*	*10,572*	*520*	*14,806*	*552*
2003	*5,241*	*397*	*563*	*14*	*4,954*	*103*	*6*	*19*	*10,765*	*533*	*14,368*	*561*
2004	*6,975*	*612*	*769*	*7*	*5,245*	*124*	*9*	*25*	*12,997*	*767*	*16,962*	*799*
2005	*8,095*	*720*	*783*	*14*	*6,097*	*132*	*5*	*28*	*14,979*	*893*	*20,045*	*1,057*

Note: LG = logs; SW = sawnwood
Source: Compiled from Chinese customs trade statistics by the author.

2. Large gateways

The timber flows through the two major gateways, Manzhouli and Suifunhe, have grown sharply over the last ten years, but the types of wood vary depending on the origin of the timber. Based on interviews conducted at the Manzhouli gateway, the logs imported are mainly from East Siberia, partly near border regions such as Chita Oblast and Amur Oblast. As for Suifunhe, most logs are transported mainly from Far East Russia, but the softwood logs such as red pine and larch originate in East Siberia.

As for the species or types of imported timber, the Manzhouli gateway sees mostly softwood, but the import of broadleaf logs such as birch increased after 2002 (table 3). After the establishment of an ambitious processing complex in the city, around one third of imported logs are roughly processed and then transported to secondary markets for further processing. Most recently, some of the processed Chinese-made products made of Russian wood have been transported back through Russia for export to Europe.

On the other hand, many hardwoods are imported from Russia through Suifunhe, the major gateway in the Ussuri watershed. In the mid-1990s, before China's NFPP was instituted, most imported timber was hardwood logs. Even until recently, the hardwood flow accounted for about 30 percent (more than 50 percent monetarily) of total imports, despite the fact that softwood imports have grown sharply. Of the total hardwood border trade from Russia to China, around 70 percent is transported through this corridor, indicating that Suifunhe is the key gateway for hardwood trade, where large imports are seen of hardwoods such as ash and oak from the southern part of Far East Russia. According to trade statistics in the first half of 2004, the share of total imports of hardwoods such as ash, oak, linden, and elm is more than 20 percent by volume and more than 40 percent by value.

In Suifunhe, Russian timber-processing industries have been developing since around 2000, and about 30 to 50 percent of imported logs are now processed in the city. In the early stages, most enterprises processed semi-finished products, but the production of value-added products such as laminated lumber has been increasing over the last three to five years. Consequently, there are a lot of processing factories in a limited city area, so the shortage of sites available for new factories has been emerging as a limit to further development. Thus, Suifunhe's city government stepped up efforts to expand its industrial base, and it finally decided to relocate small primary processing factories to the neighboring city of Suiyang in an effort to accommodate more factories.

Table 3. Russian timber flows at China's two major gateways in 1997 and 2002

Units: 1,000 m^3

		Logs		*Sawnwood*	
		1997	*2002*	*1997*	*2002*
Suifunhe	*Softwood*	*3.3*	*3,909.6*	*0.4*	*36.6*
	Hardwood	*378.0*	*768.6*	*3.3*	*52.7*
	(Oak)	*5.3*	*146.6*	*0.2*	*26.0*
Manzhouli	*Softwood*	*381.6*	*5,185.0*	*5.8*	*330.1*
	Hardwood	*0.0*	*79.0*	*0.1*	*53.3*
	(Oak)	*0.0*	*0.0*	*0.0*	*0.0*

Source: Based on Chinese customs trade statistics compiled by the author.

3. Small and medium-sized gateways

The recent share of timber flow of both logs and sawnwood passing through small and medium-sized gateways in the Amur Basin is around 5 percent, so these gateways are still a very small part of the overall Sino–Russo timber flow. The gateways where flows exceed more than 100,000 m^3 are Tongjiang, Luobei, and Fujin, and all are in the main Amur watershed. Among them, the import volume transported through the Tongjiang gateway has

increased annually, and it reached around 500,000 m^3 in 2005. At the Mohe gateway, which is located at the head of the Amur River, imports were around 100,000 m^3 after 2001, despite the fact that the customs office only opens in winter when the river freezes. This is partly due to the convenience in transportation, as the distance between Mohe and Dzhalinda on the Russian side of the gateway is only 1.5 km, and a branch of the Trans-Siberian railroad reaches to Dzhalinda.

The level of imports at Heihe, one of the first Chinese border cities to open up, like Manzhouli and Suifunhe, decreased after 1999, and has been steady at around 30,000 m^3 in the last few years. The import volume at Fuyuan, which connects to the city of Khabarovsk in Khabarovsk Krai, has remained around 20,000–60,000 m^3 since 2000. Flows at other gateways have been around 10,000 m^3, with some fluctuation, while timber imports passing through Xunke, Raohe, and Mishan are very small.

Gateways where timber flows exceed more than 10,000 m^3 are Luobei in the main Amur watershed, and Hulin and Dongning in the Ussuri watershed. From among these, the flow at Dongning has been growing steadily since 2000. On the other hand, the import volume through Heihe was more than 10,000 m^3 around 2000, but it has recently dropped sharply to almost zero.

In examining timber flows by tree species, most were softwood logs being moved through the gateways in the main Amur watershed, except for 1998 when the NFPP was launched in China. In contrast, it was mostly hardwood logs transported through the gateways in the Ussuri watershed before 1997, but the share dropped drastically after that (table 4). At the same time, the volume of sawnwood was rather high compared to logs. To uncover the reason why there are differences in timber flows at the small and medium-sized gateways, it is necessary to carefully examine other factors, such as the state of development in wood-processing facilities near each gateway, the geographic relationship with nearby major corridors, the handling capacity of customs points, transportation infrastructure, and the location of Russian timber product suppliers.

Table 4. Share of timber flow by type of wood through gateways in the Ussuri watershed compared to the total through all small and medium-sized gateways in the Amur Basin

Unit: %

	Logs		*Sawnwood*	
	Softwood	*Hardwood*	*Softwood*	*Hardwood*
1996	*0.00*	*60.86*	*9.3*	*17.3*
1997	*0.00*	*51.06*	*0.0*	*7.7*
1998	*6.09*	*26.78*	*59.4*	*1.3*
1999	*7.56*	*4.48*	*27.9*	*6.0*
2000	*0.80*	*5.41*	*11.3*	*18.9*
2001	*0.41*	*0.46*	—	—
2002	*0.32*	*0.63*	*15.7*	*51.8*
2003	*0.23*	*0.82*	*20.5*	*37.3*
2004	*0.02*	*1.15*	*40.6*	*36.9*
2005	*0.04*	*0.56*	*41.6*	*25.6*

Source: Based on Chinese customs trade statistics compiled by the author.

IV. RECENT CHANGES IN THE TIMBER TRADE POLICIES OF RUSSIA AND CHINA

1. Russia boosts log export tax

In February 2007, Russia's central government announced a graduated but sharp rise in log export taxes to take effect after July 2007, and then carried out the first step as planned (Table 5). The new system of export taxes on Russian timber has been in operation since then. The previous export tax on soft logs was 6.5 percent or 4 Euro/m^3 (around US$5.2), but in July 2007 it was increased to 20 percent or 10 Euro/m^3. Finally, after January 2009, the tax is set to increase to 80 percent or 50 Euro/m^3. The export tax rate on hardwood logs, such as oak, beech, and ash, and even semi-finished products is also set to rise sharply. This drastic and far-reaching policy change is, in essence, a log export ban, and it will most likely lead to a significant drop of log exports from Russia to China in the near future.

China, being the top importer of logs from Russia, has suffered a serious impact by this action, and the prevailing view of China's wood industry is that their efforts to shift their supply of raw wood materials away from domestic supplies to Russia's logs will suffer a setback.

2. Adjustment of China's trade taxation policies in preference of Russian timber

In recent years, step-by-step moves by China to deregulate or reduce trade taxation on Russian timber products—which fueled a steady increase of timber trade between Russia and China—were announced one after another in order to control the trade of processed timber. This kind of adjustment was eventually made to cover value-added wood products.

One key adjustment was the gradual reduction of the value-added tax refund rate. Since China's central government announced major adjustments to this rate for export products in January 2004, significant adjustments, including cutting or eliminating the tax refund rate, were repeatedly issued. The announcement issued in July 2007 listed 2,831 items for control, and value-added wood products such as plywood also had refund rate cuts. Additionally, non-renewable wood products, such as disposable wooden chopsticks, were listed as prohibited and restricted items for processing trade.

Table 5. Russian export tariff on logs after 2007

Item	*Rate* / *Minimum amount*	*Jul. 1 2007*	*Apr. 1 2008*	*Jan. 1 2009*
Softwood logs	*%*	*20*	*25*	*80*
	Euro/m^3	*10*	*15*	*50*
Hardwood logs	*%*	*24*	*24*	*50*
	Euro/m^3	*10*	*10*	*80*
Poplar	*%*	*5*	*5*	*50*
	Euro/m^3	*10*	*15*	*50*
Semi-finished products with bark thickness of 15 cm or less	*Euro/m^3*	*20*	*25*	*80*

Changes linked to the announcement have been expanding the list of controlled processed timber items for added-profit trade since the fall of 2006. In a new list, issued in August 2007, many wood products such as wood furniture, wood panels, and plywood were included as controlled products and items subject to actions. Wood-processing trade enterprises handling these items are required to submit a deposit amount equivalent in currency to the custom duty and value-added tax from now on. No permits are being issued for new foreign capital enterprises, and existing enterprises are required to increase their guarantee deposits for value-added products in improvement trade. On the other hand, processing trade enterprises located in regions inland are exempted from the deposit requirement and given favorable treatment. Thus, the Russian wood-processing trade enterprises, many of which are located in coastal regions and produce products on the controlled products list, will face difficulties in producing enough profit, and will consequently likely switch to more value-added wood production or relocate to interior regions.

V. DISCUSSION

There is a strong possibility that Sino–Russo inland border trade in the Amur Basin will be more active with an increase in volume over the next 10 years. Timber flows through the two key gateways, Manzhouli and Suifunhe, are especially expected to grow even more, because their handling capacity is being rapidly increased and there has been a build up of Russian wood-processing enterprises over the last five years.

One challenge that lies ahead is the growing competition with other import raw materials, such as oil and metals, for transportation infrastructure. In order to avoid problems such as this, there is a certain possibility that the import of semi-processed Russian wood products—some of them produced by Chinese wood-processing enterprises in Russia—might increase sharply, partly due to Russia's raising of its log export tax, and so highway transport of timber in China will become more prevalent.

There is also some potential that the past upgrading of small and medium-sized gateways will bring more diversity to timber flows from Russia to China, but any change strongly depends on the progress of Russia upgrading its gateways. Since semi-finished wood products are lower in volume and lighter in weight compared with logs, these import flows will become more flexible and diversified depending on the location of manufacturing enterprises making final products.

China's recent changes to its trade policy, to some extent, will possibly prompt the establishment of enterprises around several border gateways that manufacture final products, and so the structure of the wood-processing industry will likely change. Furthermore, because of Russia's new export tariff on logs, the past pattern of timber trade—i.e., Russian logs imported across the inland border, transported to coastal industrial areas in China for processing and manufacturing, and then exported to foreign countries—will likely be altered significantly.

REFERENCES

Iwashita, A. (2003) Chu-Ro kokkyou 4000 kiro, Kadokawa shoten, 261pp.

Kakizawa, H., and Yamane, M., eds. (2003). Russian forest and forestry, J-Fic, 238pp.

Yamane, M. (2001). China's recent forest-related policies. Overview and background from the perspective of economic growth and forest conservation. *Policy Trend Report 2001*, 1-12. IGES Forest Conservation Project.

Yamane, M. (2002). China's recent forest-related policies: Overview and background from the perspective of economic growth and forest conservation. *Policy Trend Report 2002*, 1-14, IGES Forest Conservation Project.

Yamane, M., and Lu, W. (2001). Analytical overview of recent Russia-China timber trade. *International Review for Environmental Strategies* 2(2), 335-347.