



Evaluating China's Forest Products Trade: A Review of the History, Issues and the Future

Forest Products Trade Between Russia and China: Potential
Production, Processing, Consumption and Trade Scenarios

Gary Bull and Steven Northway

17 September 2007

University of British Columbia, Vancouver, Canada



Outline

- **History:** Origin of the International Forest and Forest Products (IFFP) trade model development and projects.
- **Issues:** what are we trying to address?
- **Future:** where are we going?



History- Conferences/Meetings

2002. *Regulating the harvest: experiences and lessons from major forest countries.* In. International Forum on Chinese Forest Policy: Developing a policy research agenda to meet existing and future challenges Beijing, China, June 13-14, 2002 (See publication record).

2003. *Major Asian forest and trade statistics.* In. *International Expert Meeting on Forest and Forest Products Trades Statistics.* CIFOR, Bogor, Indonesia, Nov. 14-15, 2003.

2004. *A history and development of forest supply statistics and models: from the globe to the stand.* In. Modeling Workshop on Forest Growth, Supply, Demand and Trade. Chinese Academy of Sciences: Center for Chinese Agricultural Policy, Forest Trends, Center for International Forestry Research. Institute of Geographic Sciences and Natural Resources Research, Beijing, China, June 10, 2004.

2004. *Forecasts of Chinese demand, production and imports of wood products.* In. *The Future of Forests in East Asia and China: Trends in Regional Forest Trade and Finance,* Kuala Lumpur, Malaysia, October 7-8, 2004.

2005. *China's wood supply, consumption and production: Developing a research agenda.* In. *International Institute of Applied Systems Analysis, Laxenburg, Austria.* May 3-7, 2005.

2005. *International Forest and Forest Products Trade Model: DRAFT User's Guide.* September 2005 (unpublished).



History – Conferences/Meetings

2006. Overview of China's fiber supply: The recent past; current and future trends . *In. China's boom: Implications for investment and trade in forest products and forestry. Vancouver, Canada. January 18-20. 2006.*(See publication record).

2006. *International forest and forest products model. In. Regional Network and Trade Scenarios Workshop, China & Asia Pacific: Forest Markets for Sustainable Livelihoods and Forests. Beijing, China. June 4-6, 2005. (See publication record).*

2006. *The role of emerging countries in the paper and forest products world markets: China. Food and Agriculture Organization of the United Nations. Advisory Committee on Paper and Wood Products. 47th Session – Rome, Italy, 6th June 2006. Item 4 – Role of Emerging Countries. Available at:*
<http://www.fao.org/forestry/webview/media?mediaId=10759&langId=1>. 5pp

2006. *China and Indonesia forest and forest products trade scenarios. In. China and the global forest products trade: strengthening production and policy. Beijing, China September 20, 2006. (See publication record).*

2006. *Modeling China's forest products trade; results. In. Improving Production and Livelihoods in China through tenure and regulatory reform. Beijing, China, September 21, 2006. (See publication record).*

2007. *The forest and forest products industry scenario development: China's perspective. In. Chinese Forest Products Expert Meeting. Beijing, China. June 18-19, 2007.*



#1 – China Forest Publishing

Regulating the Harvest:
Experiences and Lessons from Major Forest Countries

Gary Bull
Olaf Schwab

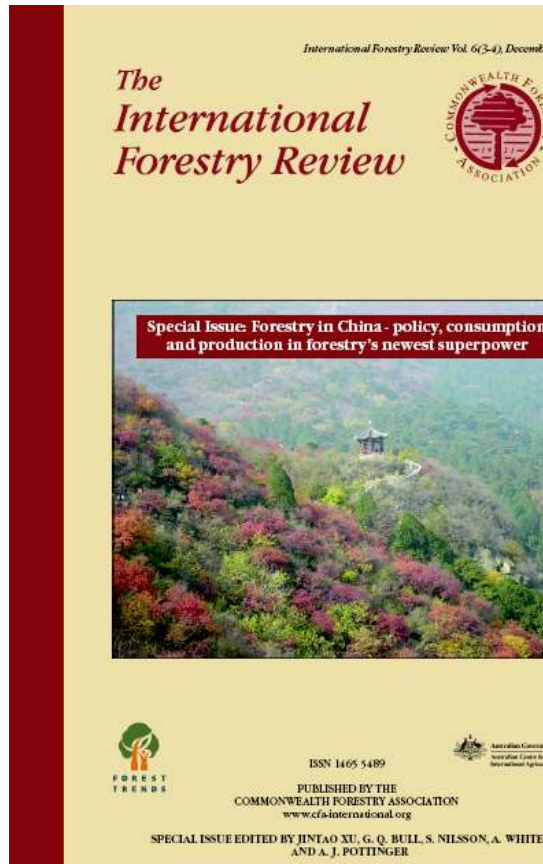
FINAL

September 2002

Faculty of Forestry
University of British Columbia
Vancouver, Canada

Citation: Bull G.Q. and O.Schwab. 2002. *Regulating the harvest: Experiences and lessons from major forest countries*. In J. Xu and U. Schmitt (eds.) International Forum on Chinese Forest Policy: Developing a policy research agenda to meet existing and future challenges, Chinese Council for International Cooperation on Environment and Development Task Force on Forests and Grasslands. June 13-14, 2002, China Forestry Publishing House, Beijing, China. 32pp on CD-ROM.

2: Int'l Forestry Review



Contents

EDITORIAL

Understanding the Chinese forest market and its global implications ii
JINTAO XU and A. WHITE

PAPERS

An assessment of China's forest resources 210
G. Q. BULL and S. NILSSON

A brief overview of China's timber market system 221
XIUFANG SUN, LIQUN WANG and ZHENBIN GU

Meeting China's demand for forest products: an overview of import trends, ports of entry, and supplying countries, with emphasis on the Asia-Pacific region 227
XIUFANG SUN, E. KATSIGRIS and A. WHITE

The China forest products trade: overview of Asia-Pacific supplying countries, impacts and implications 237
E. KATSIGRIS, G. Q. BULL, A. WHITE, C. BARR, K. BARNEY, Y. BUN, F. KAHRL, T. KING, A. LANKIN, A. LEBEDEV, P. SHEARMEN, A. SHEINGAUZ, YUFANG SU and H. WEYERHAEUSER

China's pulp and paper sector: an analysis of supply-demand trends and medium projections 254
D. HE and C. BARR

China's development of a plantation-based industry: government policies, financial incentives, and investment trends 267
C. BARR and C. COSSALTER

Chinese collective forestlands: contributions and constraints 282
GUANGPING MIAO and R. A. WEST

China's forest sector markets: policy issues and recommendations 299
S. NILSSON, G. Q. BULL, A. WHITE and JINTAO XU

Looking through the bamboo curtain: an analysis of the changing role of forest and farm income in rural livelihoods in China 306
M. RUIZ PÉREZ, B. BELCHER, MAOYI FU and XIAOSHENG YANG

International Forestry Review Vol. 6(3-4), 2004 1

China's sloping land conversion program four years on: current situation and pending issues 317
ZHIGANG XU, M. T. BENNETT, RAN TAO and JINTAO XU

Appraisal of tree planting options to control desertification: experiences from the Three-North Shelterbelt programme 327
QIANG MA

Forestry revenue policy in China: what has happened and why 335
JINLONG LIU, SHOUHONG ZHANG, JINZHONG YE and YIHUAN WANG

The relationship between forest research and forest management in China: an analysis of four leading Chinese forestry journals 341
M. RUIZ PÉREZ, MAOYI FU, JINZHONG XIE, XIAOSHENG YANG and B. BELCHER

TRANSLATION OF SUMMARIES

French 346
Spanish 349

#2: Int'l Forestry Review (Russian)

Some of the International Forestry Review Articles even got translated into Russian thanks to Dr. Alexander Sheingauz

ISSN 1815-3834

ПРОСТРАНСТВЕННАЯ ЭКОНОМИКА

Научный журнал
Основан в марте 2005 г.
Выходит 4 раза в год

№ 2 (06) 2006

Журнал издается при поддержке Научного совета РАН
по вопросам регионального развития при Президиуме РАН

УЧРЕДИТЕЛИ

Дальневосточное отделение Российской академии наук
Институт экономических исследований
Дальневосточного отделения Российской академии наук

ГЛАВНЫЙ РЕДАКТОР

Академик РАН *П. А. Минакир*

РЕДАКЦИОННАЯ КОЛЛЕГИЯ

Н. Е. Антонова, Л. Е. Балкер, А. Н. Дежневский, Е. И. Девяева, В. Д. Калинин, Б. Х. Красноярский, С. Н. Лозов, Н. В. Ломакина (заместитель главного редактора), Н. Н. Михеева, О. М. Ренкин, Л. А. Сидихина (ответственный секретарь), В. И. Сыркин, Р. В. Фатмахов, А. С. Шейкодуз (заместитель главного редактора)

РЕДАКЦИОННЫЙ СОВЕТ

Акад. РАН *А. Г. Грамберг* (председатель), акад. РАН *Л. Я. Бакалов*, акад. РАН *В. Кулемов*, акад. РАН *А. И. Титаркин*, чл.-корр. РАН *В. И. Ивашев*, чл.-корр. РАН *И. С. Королев*, чл.-корр. РАН *В. И. Лажечников*, чл.-корр. РАН *В. В. Михеев*, чл.-корр. РАН *И. Суслев*, д-р экон. наук *С. Д. Валетов*, д-р экон. наук *В. А. Ильин*, д-р экон. наук *А. П. Латыков*, д-р экон. наук *В. Н. Лексин*, д-р экон. наук *В. Ю. Малов*, д-р экон. наук *О. С. Печнишкин*, д-р экон. наук *С. А. Сусицын*

Журнал зарегистрирован Федеральной службой по надзору за соблюдением законодательства в сфере массовых коммуникаций и охраны культурного наследия 10 октября 2005 г. Свидетельство ПИ № ФС 77-23107

© Дальневосточное отделение РАН, 2006
© Институт экономических исследований
Дальневосточного отделения РАН, 2006
© Редакция, составление, 2006

3: Forest Trends



CHINA AND THE GLOBAL MARKET FOR FOREST PRODUCTS

Transforming Trade to Benefit Forests and Livelihoods

March 2006



AUTHORS

Andy White, Xiufang Sun, Kerstin Canby,
Jintao Xu, Christopher Barr, Eugenia Katsigris,
Gary Bull, Christian Cossalter and Sten Nilsson

China and the Global Market for Forest Products; Transforming
Trade to Benefit Forests and Livelihoods

© 2006 Forest Trends.
ISBN 1-932928-21-9;
Reproduction permitted with attribution

Interior printed on 100% recycled paper
Cover printed on 100% post-consumer waste recycled paper

Example of #3 Results - China's potential imports and harvests

Fig.3 CHINESE IMPORTS OF FOREST PRODUCTS: Actual and Potential Trends (1997-2015)

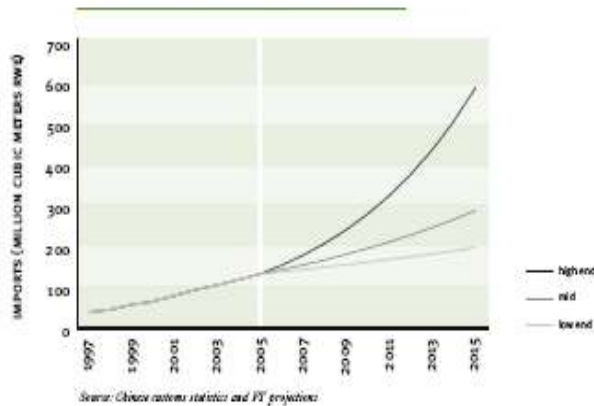
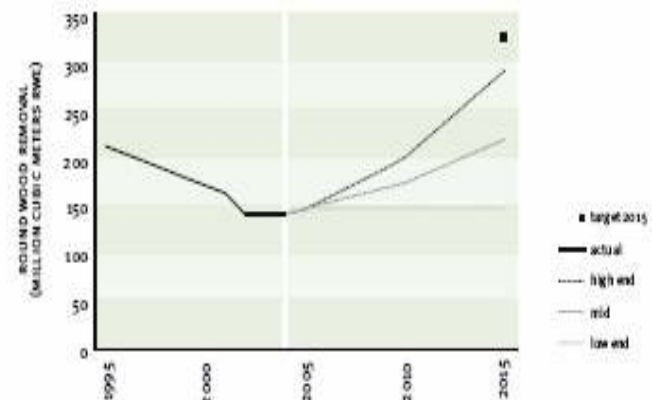


Fig.4 DOMESTIC INDUSTRIAL ROUNDWOOD REMOVAL: Actual and Potential Trends Compared with Government Targets for 2015



The first crude attempt we made to develop an international perspective

4: CIFOR

International Forest and Forest Products Trade Model: Scenarios for China and Indonesia's Forest Supply Forest Products Processing, Consumption and Trade

October 23, 2006

Steven Northway and Gary Q. Bull
Faculty of Forestry
University of British Columbia
Vancouver, British Columbia, Canada

Table of Contents

1. INTRODUCTION.....	1
2. MODEL FORM.....	1
3. MODEL DESCRIPTION OF A FOREST ESTATE.....	3
4. MODEL DESCRIPTION OF FOREST PRODUCTS	3
5. WORLD CALIBRATION	4
<i>Forest.....</i>	<i>4</i>
<i>Consumption.....</i>	<i>5</i>
<i>Manufacturing capacity.....</i>	<i>7</i>
6. CHINA CALIBRATION	7
<i>Forest.....</i>	<i>8</i>
<i>Consumption.....</i>	<i>8</i>
<i>Manufacturing capacity.....</i>	<i>9</i>
7. INDONESIA CALIBRATION.....	10
<i>Forest.....</i>	<i>10</i>
<i>Manufacturing capacity.....</i>	<i>11</i>
8. TRADE CALIBRATION	12
9. SCENARIO RESULTS.....	16
<i>Harvest Results.....</i>	<i>17</i>
<i>Trade in Logs.....</i>	<i>19</i>
<i>Trade in Pulp Furnish.....</i>	<i>20</i>
<i>Trade in Solid-wood-based Consumables.....</i>	<i>20</i>
<i>Trade in Pulp-based Consumables.....</i>	<i>20</i>
10. MODEL LIMITATIONS.....	21
11. MODEL ADVANTAGES.....	21
12. REFERENCES	23



#4: Scenarios

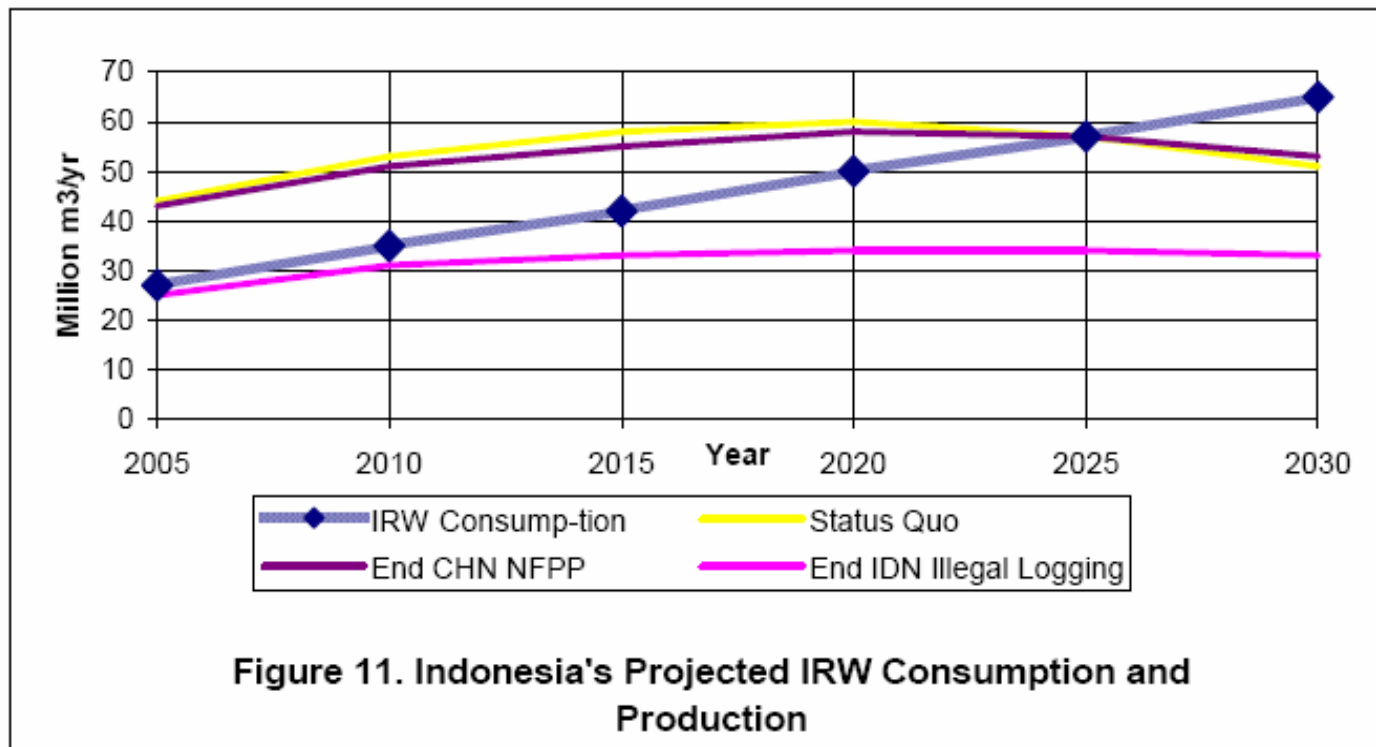
Scenarios for China

1. "No-NFPP", ignores the implementation of the Chinese Natural Forest Protection Program.
2. "*Status Quo*" reflects the implementation of the NFPP and is the best representation of current conditions and expected future developments.
3. "End-NFPP", examines the impact of removing the logging ban on forest production.
4. "Poor CHN Plantation Growth", reflects disappointing growth rates for China's fast growing plantations

Scenarios for Indonesia.

1. "*status quo*", includes illegal logging.
2. "End IDN Illegal Logging", reflects a halt to illegal logging in the first period.

Example of #4 Results





#5 – Canadian Forest Service

International Forest and Forest
Products Trade Model: Scenarios for
China and Eastern Russia Forest
Supply, Forest Products Processing,
Consumption and Trade

September 7, 2007

Steven Northway and Gary Q. Bull
Faculty of Forestry
University of British Columbia
Vancouver, British Columbia, Canada

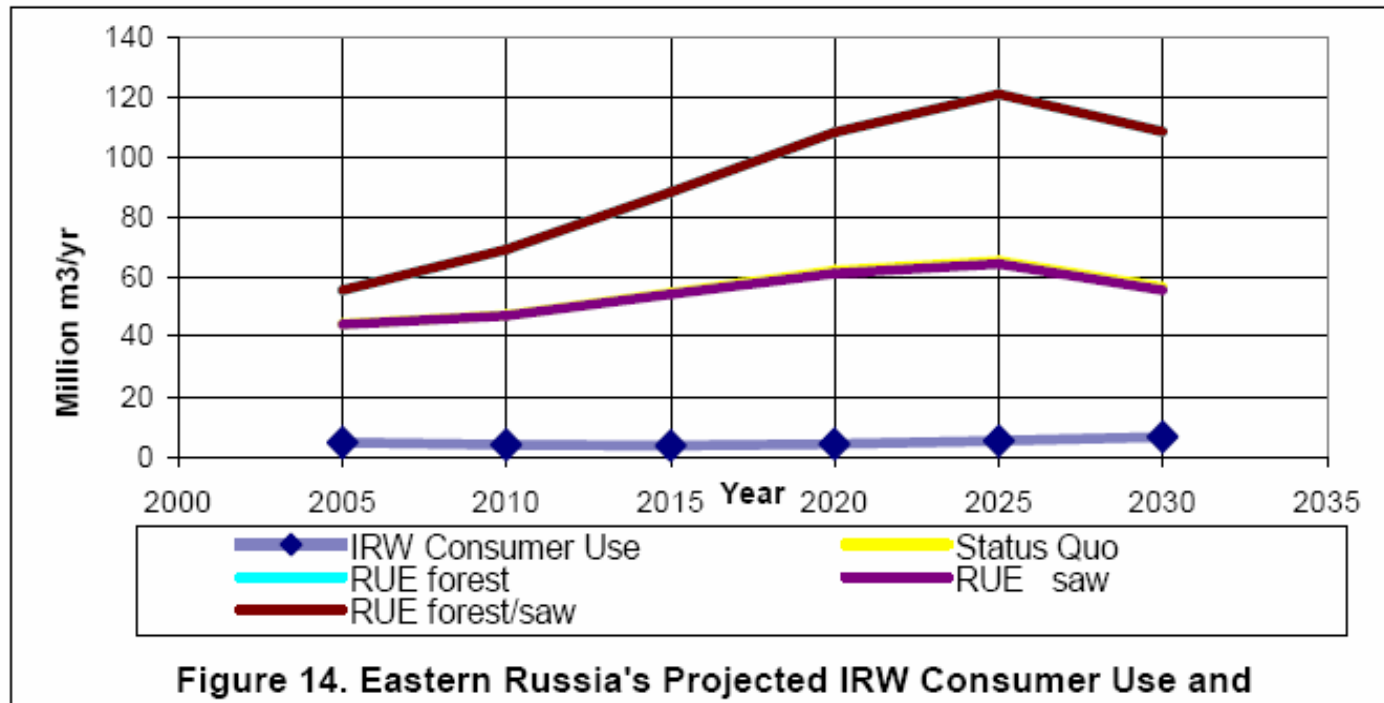


#5: Scenarios

Scenarios for Eastern Russia

- the “Status Quo”
- “RUE forest” represents an accelerated investment into the transportation infrastructure to support harvesting.
- “RUE saw” represents an accelerated investment in sawmill capacity. It is implemented by increasing the predicted sawmill capacity by double the rate predicted in the “Status Quo”.
- “RUE forest/saw”, includes both an accelerated investment in support of harvesting and sawmill capacity.

Example of #5 Results



#6: Forest Trends



CHINA AND FOREST TRADE IN THE ASIA-PACIFIC REGION:

IMPLICATIONS FOR FORESTS AND LIVELIHOODS

中国与亚太地区国家林产品贸易研究

**FOREST PRODUCTS TRADE
BETWEEN RUSSIA & CHINA:**

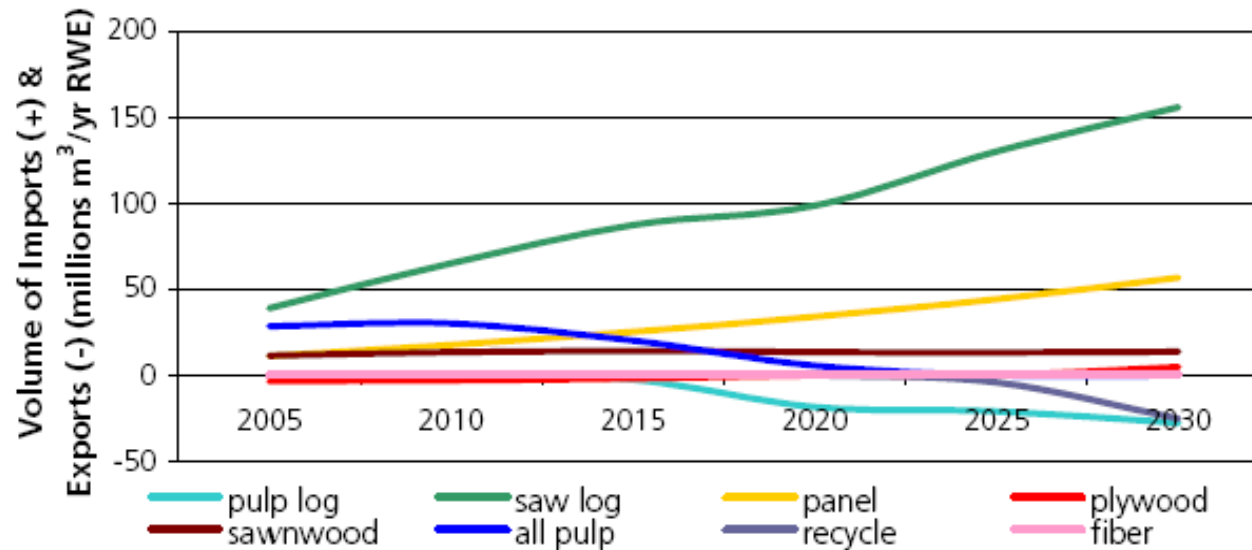
**POTENTIAL PRODUCTION, PROCESSING,
DEMAND AND TRADE SCENARIOS**

STEVEN NORTHWAY
GARY Q. BULL



Example of #6 Results

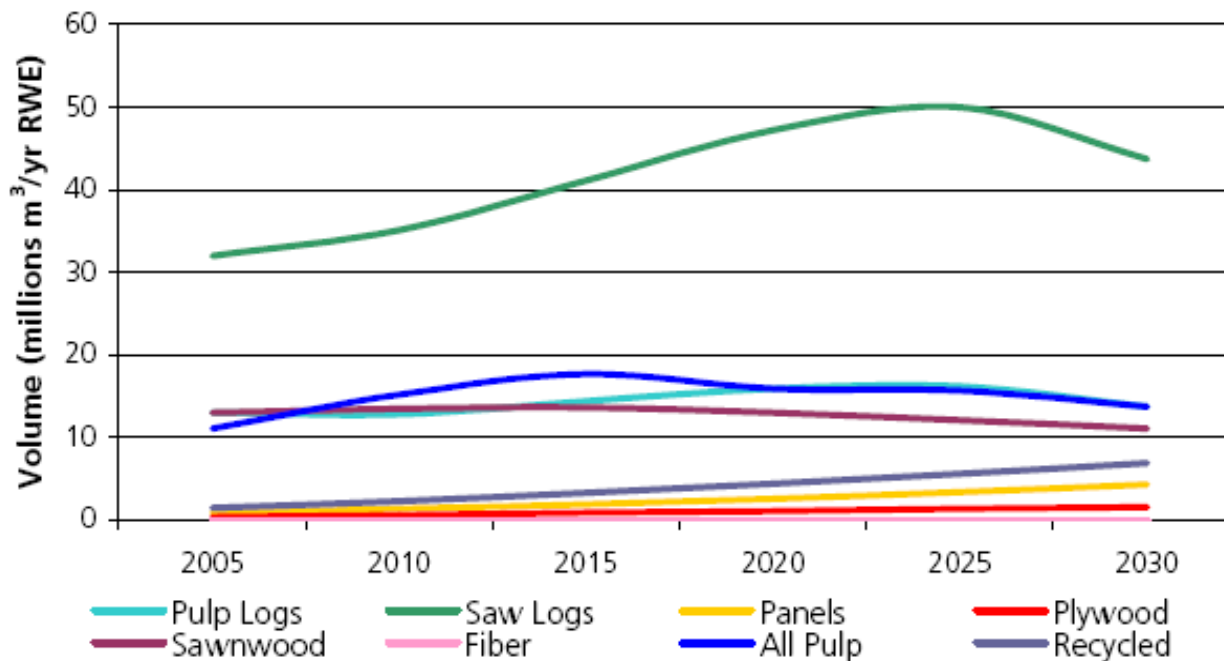
Figure 4: China's Forest Products Trade, by Product - Status Quo Scenario



*Note: Exports (pulp logs, recycled paper, plywood until 2020) are given as negative numbers; imports are positive.
Source: Northway & Bull, 2007: Appendices 1a, 2a, 3a.*

Example of #6 Results

Figure 6: Eastern Russian Domestic Production of Forest Products – Status Quo Scenario



Source: Northway & Bull, 2007: Appendices 1c, 2c, 3c.



Issues

- Modeling
 - Basic data availability
 - Data consistency
 - Data definition and interpretation
 - Theory
 - Policy relevance
- Choosing relevant scenarios



Summary of Publications (1)

- Bull G.Q. and O.Schwab. 2002. *Regulating the harvest: Experiences and lessons from major forest countries*. In. J. Xu and U. Schmitt (eds.) International Forum on Chinese Forest Policy: Developing a policy research agenda to meet existing and future challenges, Chinese Council for International Cooperation on Environment and Development Task Force on Forests and Grasslands. June 13-14, 2002, China Forestry Publishing House, Beijing, China. 32pp on CD-ROM.
- Bull G.Q. , and Nilsson S. 2004. *An assessment of China's forest resources*. International Forestry Review. 6(3-4): 210-220.
- Katsigris E., G.Q. Bull, A. White, C. Barr, K. Barney, Y. Bun, S.Y. Chrystanto, F. Kahrl, T. King, A. Lankin, A. Lebedev, P. Shearman, A. Sheingauz, Y. Su, and H. Weyerhauser. 2004. *The Chinese forest products trade: Overview of Asia Pacific supplying countries, impacts and implications*. International Forestry Review. 6(3-4): 237-253.
- Nilsson S., G.Q. Bull, A. White and J. Xu. 2004. *Chinese forest policy: policy issues and recommendations*. International Forestry Review. 6(3-4): 299-305.
- Katsigris E., G.Q. Bull, A. White, C. Barr, K. Barney, Y. Bun, S.Y. Chrystanto, F. Kahrl, T. King, A. Lankin, A. Lebedev, P. Shearman, A. Sheingauz, Y. Su, and H. Weyerhauser. 2005. *The China forest products trade: Overview of Asia Pacific supplying countries, impacts and implications*. Forest Trends, Washington, DC. (Chinese reprint).
- Northway S. and G.Q. Bull. 2005. *Developing scenarios and evaluating policies for China and Asia pacific regional forest products suppliers. A proposed model structure*. In. A. White and C. Barr (eds.). *China & Asia Pacific: Forest Markets for Sustainable Livelihoods and Forests*. Regional Network and Trade Scenarios Workshop, June 4-6, 2005, Beijing, China. 8pp.



Summary of publications (2)

- Katsigris E., G.Q. Bull, A. White, C. Barr, K. Barney, Y. Bun, S.Y. Chrystanto, F. Kahrl, T. King, A. Lankin, A. Lebedev, P. Shearman, A. Sheingauz, Y. Su, and H. Weyerhauser. 2006. The Chinese forest products trade: Overview of Asia Pacific supplying countries, impacts and implications. *Spatial Economics* 2(6): 91-119 [Russian reprint].
- G.Q. Bull. 2006. *The role of emerging countries in the paper and forest products world markets: China*. Food and Agriculture Organization of the United Nations. Advisory Committee on Paper and Wood Products. 47th Session – Rome, Italy, 6th June 2006. Item 4 – Role of Emerging Countries. Available at: <http://www.fao.org/forestry/webview/media?mediaId=10759&langId=1>. 5pp
- Northway S. and G. Q. Bull. 2006. *International forest and forest products trade model: Scenarios for China and Indonesia's forest supply, forest products processing, consumption and trade*. CIFOR report. Bogor, Indonesia. 31pp.
- White A., X. Sun, K. Canby, J. Xu, C. Barr. E. Katsigris, G. Q. Bull, C. Cossalter and S. Nilsson. 2006. *China and the global market for forest products: transforming trade to benefit forests and livelihoods*. March. Forest Trends, Washington, D.C. 31pp.
- Northway S. and G. Q. Bull. 2007. *Forest products trade between, Russia and China: Potential production, processing, consumption and trade scenarios*. Synthesis. Forest Trends. Washington. DC. 14pp.
- Northway S. and G. Q. Bull. 2007. *International forest and forest products trade model: Scenarios for China, Eastern Russia and Indonesia's forest supply, forest products processing, consumption and trade*. Canadian Forest Service. Ottawa, Canada. 44pp.



Issues

- The forest inventories, harvest elasticities, and growth and yield estimates need refinement, including a better representation of the extensive margin.
- The treatment of illegal logging needs to be extended beyond Indonesia.
- Fuel wood needs to be included.
- Energy inputs and possible outputs need to be included.
- Changes in manufacturing capacity and consumption within a country are independent of its domestic supply of raw materials.



On the other hand!

- The dynamics of the forest - area, volume, growth and removals - are explicitly included as a simplified forest estate model.
- The processes, used to transform products, are represented with individual supply elasticities.
- The IFFP model allows for the examination of the bilateral trade impacts of generated in-country scenarios.
- The product-process based structure of the model makes it easy to extend the model into addressing a wide range of forest policy issues such as:
 - Land use allocation - Land class for primary products could be changed.
 - Bioenergy - Alternative processes could be used to allocate logs.
 - Sectoral studies - Products and processes descriptions could be more limited in breadth and deeper in depth.
 - Substitution - Alternative processes could represent possible product substitutions.



Future

- Demonstrate utility (objective of the next few days)
- Train country experts (to transfer the model)
- Finalize analysis including western Russia (to develop Russia scenarios)
- Fully develop on-line version for multi-country analysis (to facilitate dialogue)
- Rapid response to the needs of policy makers (to be relevant)