Forestry in the USA: Global Potential

Amerikanische Forstwirtschaft – Globales Potential

L'économie forestière américaine – un potentiel global

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1. Status of forests in the USA

1.1. Forests coverage and ownership

Forests in the USA cover 766 million acres. They are concentrated mostly in the South and Northeast, the Lake States, and Rocky Mountains.

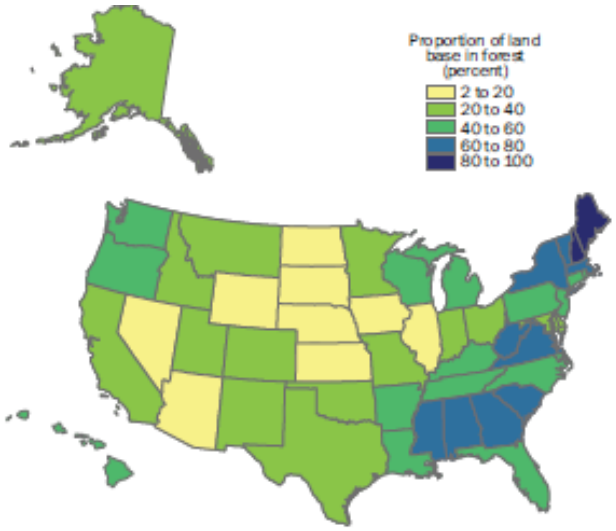


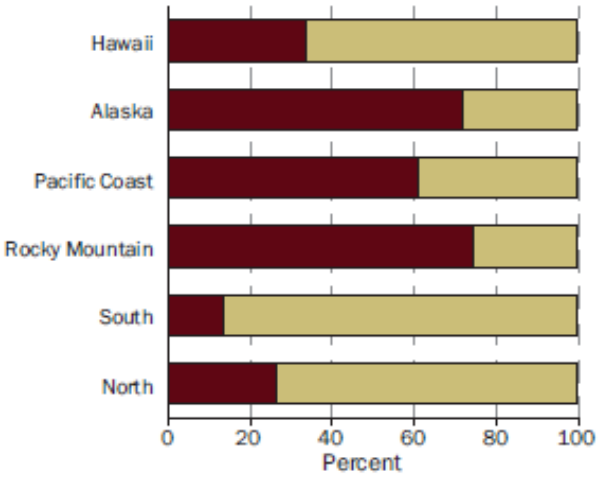
Figure 1: Percent of total land area that is forested by state (Oswalt et al. 2014)

This is may be contrary to the conventional wisdom of many, but forests of the USA are expanding especially in the South for several reasons such as conservation easements, conversion marginal agricultural lands to forestry.

Region	2007		2012	
	Forest	Timberland	Forest	Timberland
	Acres			
North	172	164	176	167
South	235	204	245	210
Rocky Mountain	131	71	132	71
Pacific Coast	214	75	215	73
Total	752	514	766	521

Figure 2: Forests and timberlands (million acres) in the USA by region and year (Oswalt et al. 2014)

About 58% of forests in the USA are privately owned and 42% are publicly owned. The private ownership in the north and south exceeds 2/3 which have implications for the economy and the future of forest products sector.



	North	South	Rocky Mountain	Pacific Coast	Alaska	Hawaii
	million acres					
Public	46.5	32.7	97.5	51.4	92.5	0.6
Private	129.1	212.0	33.8	32.9	36.1	1.2

Figure 3: Forests ownership by region (Oswalt et al. 2014)

Total volume on timberland of the USA exceeds 1 trillion cubic feet with more hardwood in the north and south and more softwood in other regions.

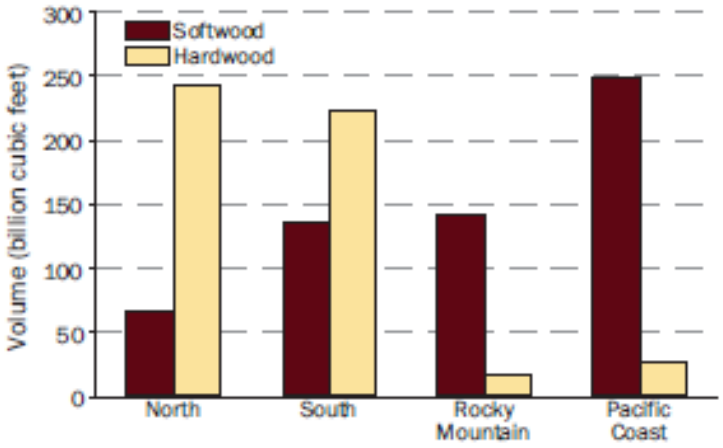


Figure 4: Total volume on timberland by region and by species (Oswalt et al. 2014)

In the USA, timber harvest for industrial products and domestic fuel wood totalled 12.8 billion cubic feet. This is nearly a 15% decline since 2006. This decline can be attributed largely to the financial crisis we experienced in 2008 and later.

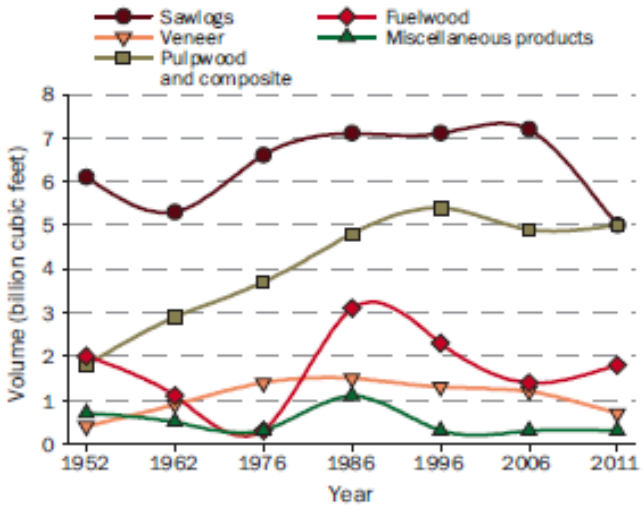


Figure 5: Trends in products production in the USA (Oswalt et al. 2014)

1.2. Impacts on the industry and the economy

USA's industrial roundwood production appears to be paralleled with consumption.

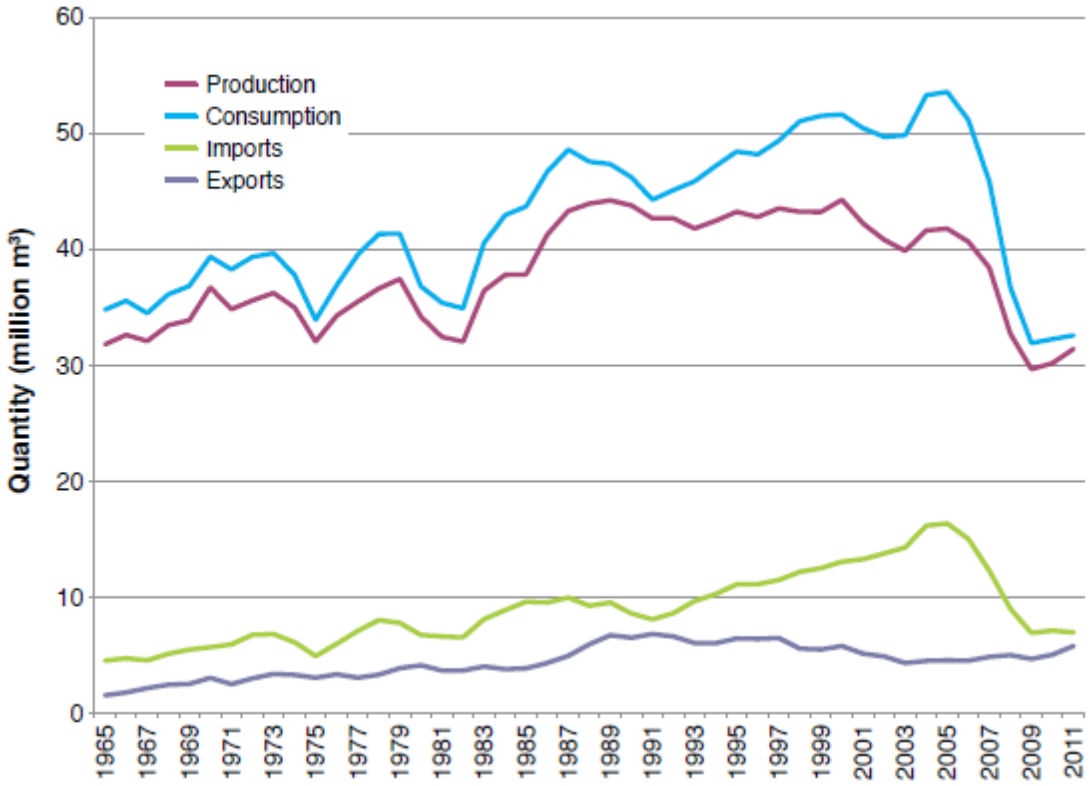


Figure 6: USA's Production, consumption, imports and exports of Roundwood-equivalent timber products (Prestemon et al. 2015)

The recession of 2007-09, which was led by a strong contraction of the housing market, brought USA's Roundwood consumption per capita by almost 40%.

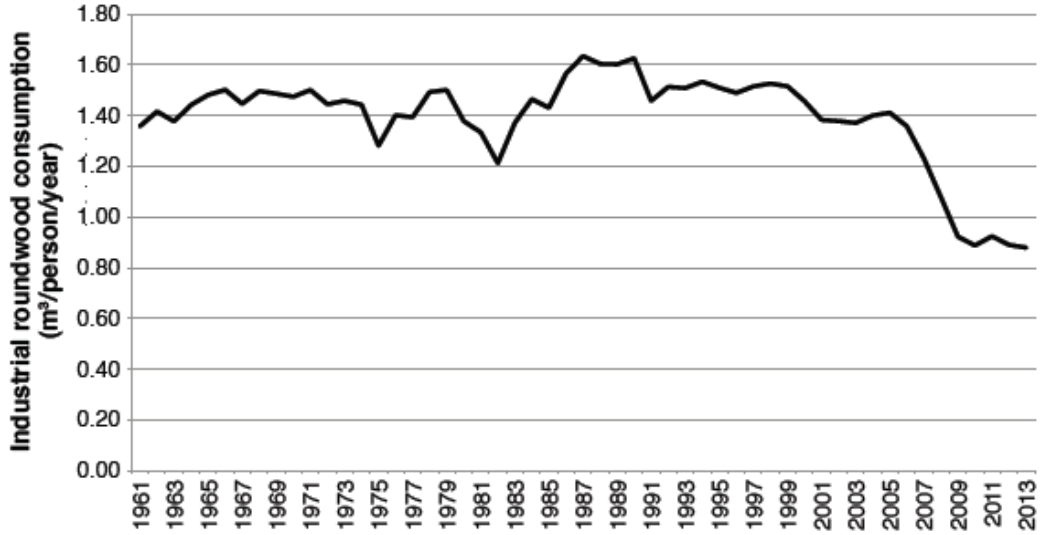


Figure 7: USA's annual consumption per capita of industrial roundwood (Prestemon et al. 2015)

Although the USA has been a leader in industrial Roundwood production, its share of global production has declined from 28% in 1998 to less than 17% in 2013.

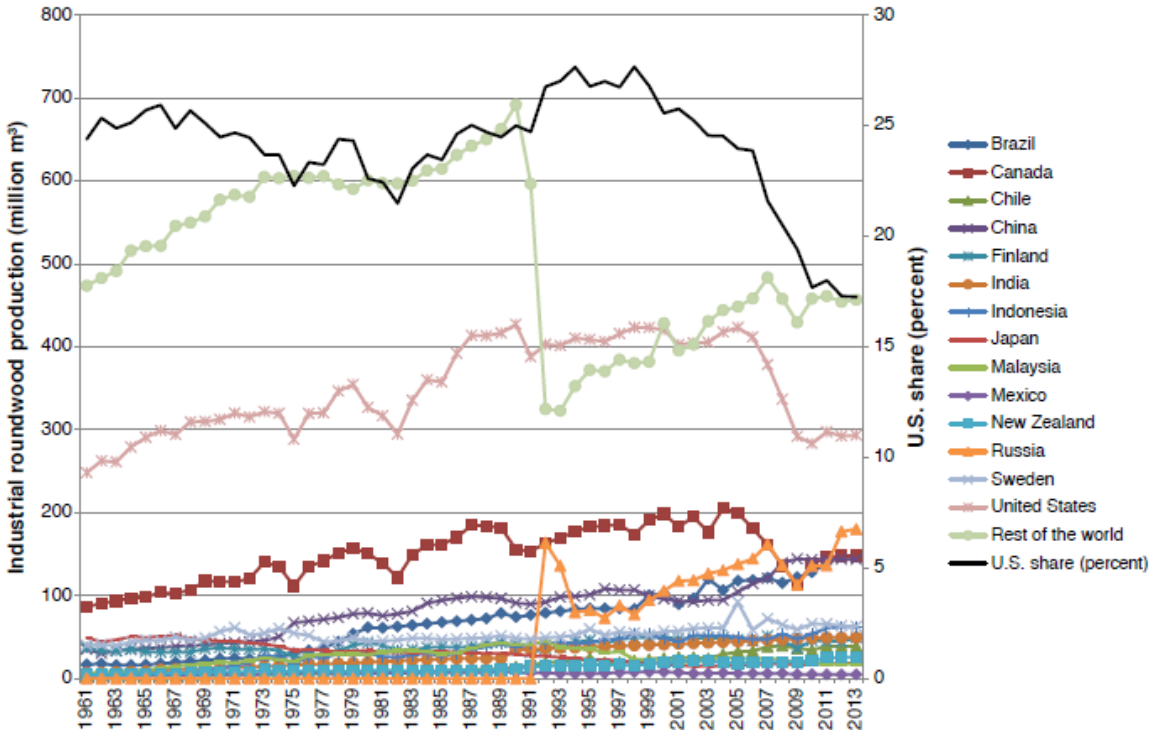


Figure 8: Industrial Roundwood production by country with USA share of global output (Prestemon et al. 2015)

2. Challenges to forests in the USA

There are several challenges to ensure the sustainability of forests in the USA and to enhance the marketability of forest products.

2.1. Forests fires, pests and diseases:

In the USA, each year on average more than 73,000 wildfires burn about 7.3 million acres of private, state, and national forests. Public's limited understanding of the use of prescribed fires and reducing fuel loads continue to pose additional challenges to deal with wildfires. Approximately, $120 billion damages are caused by invasive species in the U.S.; 81 million – acres of public and private lands are at risk from insects and diseases; and about 42 percent of threatened or endangered species are expected to be displaced by invasive species

2.2. LEED's unacceptability to the SFI

The U.S. Green Building Council's (USGBC) Leadership in Energy and Environmental Design (LEED) rating tools recognize only wood and paper products certified to the Forest Stewardship Council (FSC) standard. FSC-certified forests account for about one quarter of North America's certified forests; the rest are certified to other credible standards such as SFI, American Tree Farm System (ATFS) and Canadian Standards Association (CSA). This means wood and paper from nearly two thirds of North America's certified forests is not eligible for the LEED wood certification credit, and building professionals seeking LEED certification may have to purchase wood or paper products from overseas.

2.3. Limited understanding about intensive forestry

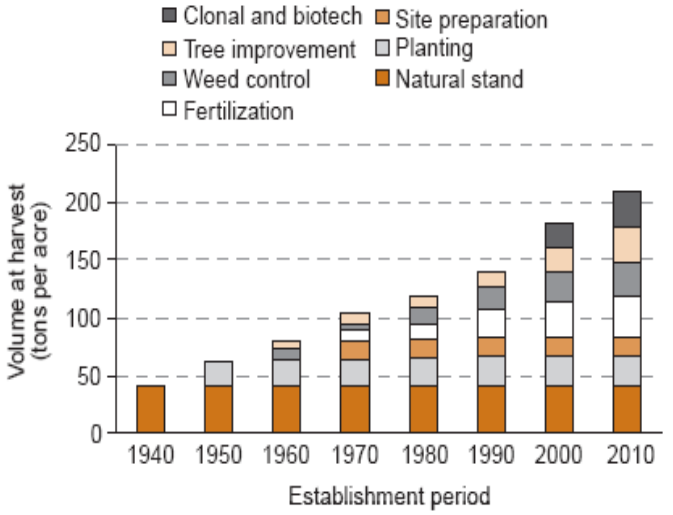


Figure 8.3—Estimated contributions of intensive management practices to productivity in pine plantations in the Southern United States from 1940 through 2010.

Although more than 100% forest productivity gains are made through biotechnology and advance silvicultural practices during the past 50 years, future potential to harness these technologies and innovative practices appears to be huge. However, going forward, social acceptance of intensive forestry practices will continue to pose challenges.

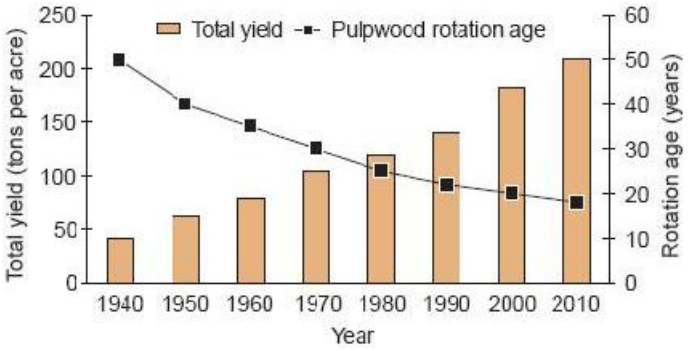


Figure 8.2—Estimated total yield and pulpwood rotation age in pine plantations in the Southern United States from 1940 through 2010.

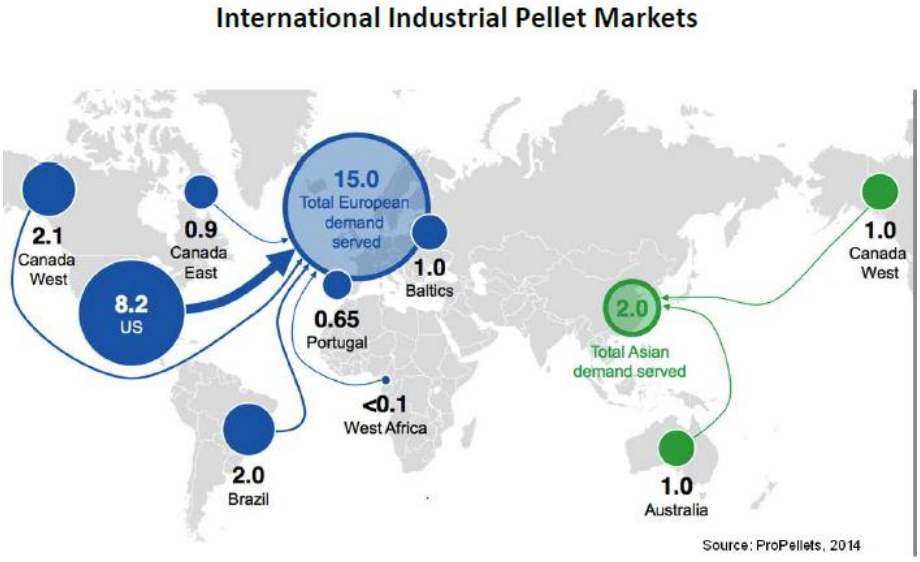
Source: Fox, Jokela, and Allen (2004)

3. Future of the forests in the USA

There are several opportunities for the forest sector in the USA to enhance its competitiveness and expand its size and significance.

3.1. Renewable energy:

The Energy Independence and Security Act (EISA) requires an increase in the use of biofuels in transportation from 4.7 billion gallons in 2007 to 36 billion gallons in 2022. If barriers to commercialization of cellulosic biofuels can be addressed, the demand for forest biomass would expand. In 2014, the U.S. Environmental Protection Agency (EPA) proposed a "Clean Power Plan" aimed at reducing carbon dioxide emissions in 2030 by 30 percent compared to 2005. If promulgated as proposed, states will be required to develop plans to meet the proposed goal. Biomass, including wood pellets, would potentially have a role in replacing coal for electric power generation (Goetzl 2015).



3.2. Frontiers of wood and biomaterials:

The US Forest Service and the WoodWorks (a non-profit organization), recently held a Wood Solutions Fair in Washington DC. The goal was to promote the use of wood in commercial buildings in helping maintain sustainable forest management, addressing wildfires, droughts, extreme storms and insect epidemics. It is also to promote the use of Cross Laminated Timber in building high-rise structures with wood.

Growing realization of "use of wood is good": The realization that theuse of wood in commercial buildings will stimulate sustainable forest management, address wildfires, droughts, extreme storms and insect epidemics is on the rise. In addition, there is a lot of research evidence out there suggesting that wood buildings store tremendous amounts of carbon and reduce the fossil energy needed for construction over alternatives like concrete, steel and aluminium. This realization of scientific reality might provide a big boost to forestry and forest products industry!!