Log Exports, China and the American Hardwood Industry

Michael S. Snow

www.americanhardwood.org
US Hardwood Log Exports

Source: USDA FAS
Graph: HMR
U.S. HW Exports - Volume

Data sources: USDA Foreign Agricultural Service
US Hardwood Log Exports (m$^3$)

*2017 Data Annualized. Source: USDA GATS*
US Hardwood Log Exports by Species in Board Feet

- Red Oak
- Maple
- Ash
- White Oak
- Walnut

Millions (board feet)
Deflated price indexes for composite red and white oak lumber and stumpage

Sources: Luppold; Hardwood Market Report; OSU Extension & ODNR; U.S. Dept. of Labor
hard maple, soft maple, cherry, ash, Hickory, and walnut lumber and stumpage
China's Hardwood Log Imports Market Share by Volume

- Mozambique
- Equatorial Guinea
- United States
- Solomon Islands
- Papua New Guinea
CHALLENGES TO PREVAILING “SUSTAINABLE TIMBER” CONCEPT
TRADE SHIFTING TO “LESS SENSITIVE” EMERGING MARKETS

Tropical wood trade by region of import

Source: analysis of Global Trade Atlas
US Exports of Hardwood Lumber to China

1999 - 2006
US Furniture Manufacturing Shift to China and US Housing Boom

2006 - 2009
US Housing Bust and Worldwide Economic

1999 - 2006 + 759.5%

2009 - 2017 + 400.5%

China's Growing Middle and Upper Classes Consuming US Hardwoods

Source: USDA FAS
Graph: HMR
Map of China
Locations of provinces, autonomous regions and municipalities.

Beijing, Tianjin, Hebei, Shanxi, Shandong, Henan, Henan, Jiangsu, Zhejiang, Anhui, Jiangxi, Fujian, Taiwan, Guangdong, Guandong, Guangxi, Sichuan, Chongqing, Sichuan, Shanxi, Shaanxi, Qinghai, Ningxia, Gansu, Xizang (Tibet), Xinjiang, Heilongjiang, Jilin, Liaoning.
April 27, 2018: China Halts Hardwood Log Imports from US
Veneer Trade: Changes in Global Flows
The world's 10 largest hardwood veneer exporters
2012-2016 ($ million)

* Sharp rise in veneer exports follows log export bans in Myanmar (Apr 2014) and Ukraine (Nov 2015)

Source: Global Trade Atlas
The world's 10 largest hardwood veneer importers 2012-2016 ($ million)

* Sharp rise in India's veneer imports follows Myanmar log export ban (from Apr 2014)

Source: Global Trade Atlas
AP Wire/BBC News: “A new global monitoring system has been launched that promises "near real time" information on deforestation around the world. Forest campaigners say this is the equivalent of 50 football fields of trees being cut down, every minute of every day over the past 12 years.”
Net volume of hardwood growing stock on timberland in the United States by diameter class

<table>
<thead>
<tr>
<th>Year</th>
<th>5.0-&gt;10.9 inches</th>
<th>11.0-&gt;18.9 inches</th>
<th>19.0+ inches</th>
</tr>
</thead>
<tbody>
<tr>
<td>1953</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1977</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1987</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1997</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2007</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2012</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Forest Inventory Data Online (FIDO)

Creating Custom Retrievals
Use this mode of the FIDO application to create new, custom retrievals. You'll be able to do everything from selecting your summary attribute to choosing custom filters and the report layout display. The next sections describe in some detail how this mode of FIDO works...

Begin Creating Custom Reports >>

Creating a Custom Retrieval
There are 8 steps to creating and saving a custom report. You can go to any step by clicking on the matching button displayed in the right-hand column. You can also let the wizard guide you through the process by clicking the "Continue" button at the bottom of the page. Below is a brief description of each of these steps:

- Start New Retrieval
  You start your custom retrieval with this step. You can choose to either start a completely new retrieval/template or pick one of the existing retrievals/templates to use as a starting point.

- Set Summary Attribute
  The summary attribute is the value that will be displayed in the cells of your tabular report. Examples include Area of land, Tree volume, Tree mortality, etc.

- Design Report Layout
  When you define your report layout, you select how the summary attribute defined above is grouped and reported. FIDO retrievals are broken down into three axes. In tabular reports the axes define table, row, and column breaks. You will be required to select an attribute for each axis.

- Select Filter Options
  Set filters to restrict the data that will be used to generate your report. Each of the filter options has subcategories. You may select as many as you wish.

- Define the geographic region for your report by selecting states and counties here.

http://apps.fs.fed.us/fia/fido/index.html
NEW INTERACTIVE ONLINE TOOL

DATA AT A NATIONAL LEVEL

DATA AT A COUNTY LEVEL
GROWTH OF RED OAK ACROSS THE U.S.

Select data map: GROWTH
Select species: AMERICAN RED OAK
Select state (list or click on map): WHOLE MAINLAND U.S.

Average annual growth, 1000 m$^3$

All data derived from Forest Inventory Data Online (FIDO), a component of the U.S. Forest Service inventory and Analyses Program (IA). Data was compiled by AHDEC in January 2016 using the most recent state inventory available (2014 for most states).

"Growth" refers to "net annual growth of live trees on forest land" as defined by PA (see glossary). PA growth data is available for 45 U.S. states accounting for 97.9% of commercially significant hardwood forest volume.

AMERICAN HARDWOOD EXPORT COUNCIL
DATA AT A COUNTY LEVEL

Select data map

- FOREST VOLUME

Select species

- AMERICAN TULIPWOOD

Select state (list or click on map)

- NORTH CAROLINA

GROWTH AND REMOVALS, 1000 m³

<table>
<thead>
<tr>
<th>Growth</th>
<th>Removals</th>
<th>Net growth</th>
</tr>
</thead>
<tbody>
<tr>
<td>5,897</td>
<td>2,10</td>
<td>3,797</td>
</tr>
</tbody>
</table>

FOREST VOLUME, 1000 m³

- 168,943

Volume of live trees on forest land, 1000 m³

- 0-20K
- 20K-40K
- 40K-60K
- 60K-80K
- 80K-100K
- 100K-120K

Back to whole of U.S.

All data derived from Forest Inventory Data Online (FIDO), a component of the U.S. Forest Service Inventory and Analysis Program (ISAP). Data used is characterized as A-II, meaning the most current and detailed estimate available. The data as shown is a subset of the data available for all U.S. states through visualization tools, and includes both harvested and non-harvested forest land. The data is derived by FIA. FIA forest volume data is available for all U.S. states through the Forest Inventory Data Online platform, which is linked to forested land on which timber is being grown or harvested.
NEW ON LINE SPECIES GUIDE WITH FOREST MAP AND LCA TOOLS

LIFE CYCLE ASSESSMENT TOOL

1.75 seconds

It takes 1.75 seconds to grow 1m³ of American Red Oak.

GROWN IN SECONDS

Select species

AMERICAN RED OAK

Select lumber thickness

4/4 (1") LUMBER

Select export port

EAST COAST USA

Select import port

EUROPE

1.75 seconds

It takes 1.75 seconds to grow 1m³ of American Red Oak.

The replacement rate is calculated from total U.S. annual increment of the specified hardwood species derived from the U.S. Forest Service inventory and analysis (FIA) program and assumes that 2 m³ of logs is harvested to produce 1 m³ of lumber (ca. 50% conversion efficiency). The rapid rate of replacement is due to the very large volume of hardwood trees in U.S. forest.

Impact Categories

- Global Warming Potential
- Primary Energy Demand from Resources (MJ)
- Primary Energy Demand from Renewables (MJ)
- Acidification Potential (Moles of H₃PO₄)

Freshwater Eutrophication Potential (Kg P eq)
Marine Eutrophication Potential (Kg N eq)
Photochemical Ozone Creation Potential (Kg NMVOC)
Resource Depletion (Kg SB-eq)

Key

- Carbon uptake
- Drying
- Forestry
- Sawmill
- Transport Forest-Kiln
- Transport Kiln-Customer
EVERY TWO MINUTES THE U.S. HARDWOOD FOREST GROWS BY THE SIZE OF A FOOTBALL FIELD

Our unique, online interactive map uses published US Forest Service data to show national and regional distribution, growth and removal information for most of the main commercial American hardwood species.

To find out more visit AMERICANHARDWOOD.ORG
It took just **25 seconds** to grow the American white oak in this 500m² deck.
LIFE CYCLE ASSESSMENT

3 SECONDS TO REPLENISH THE WALNUT

TOTAL CARBON FOOTPRINT: 17KG CO2

134 KG CO2 STORED

ONLY 7% OF TIMBER WASTED
Questions?

www.americanhardwood.org
www.ahec.org