

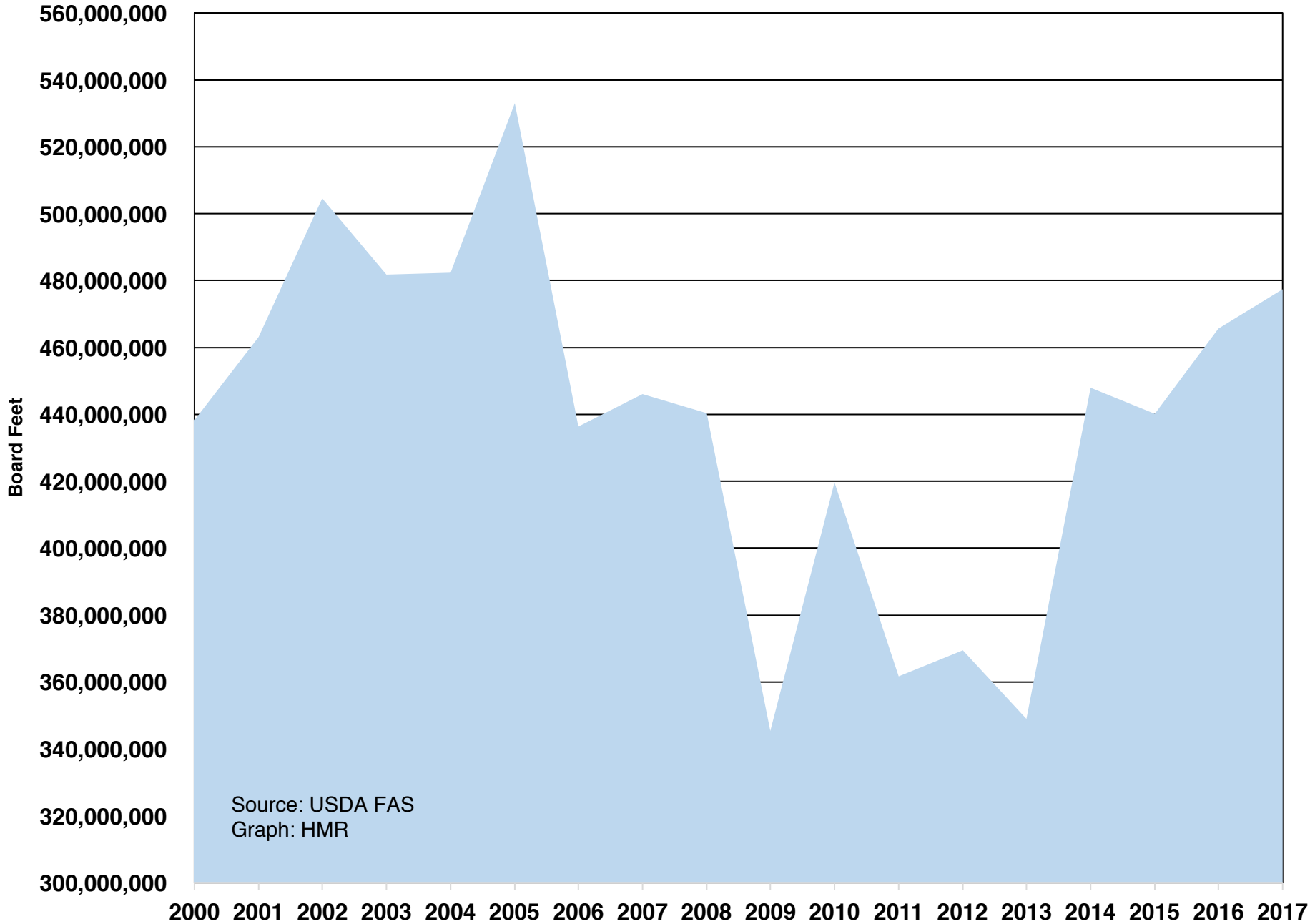


Log Exports, China and the American Hardwood Industry

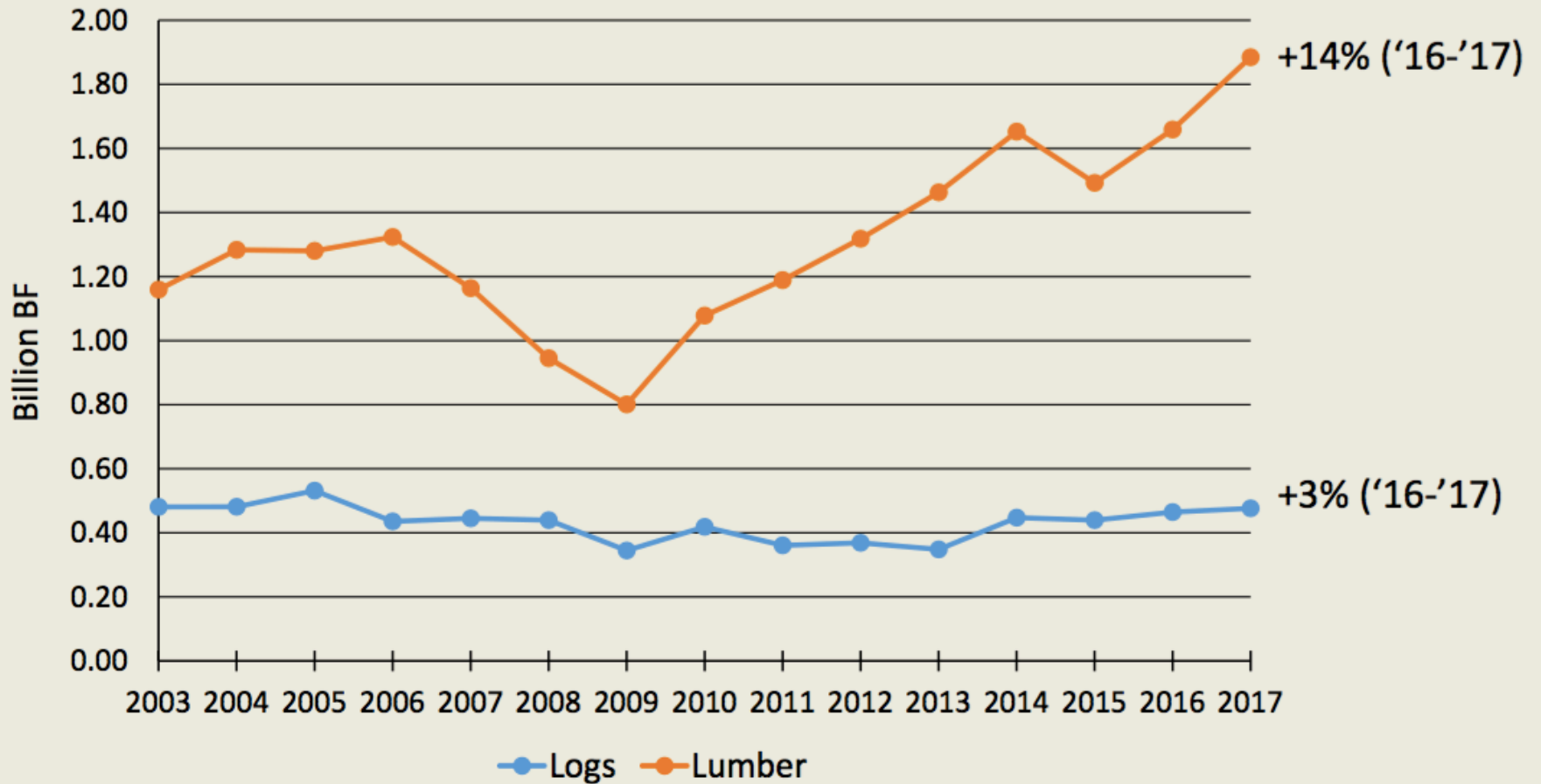
Michael S. Snow

www.americanhardwood.org

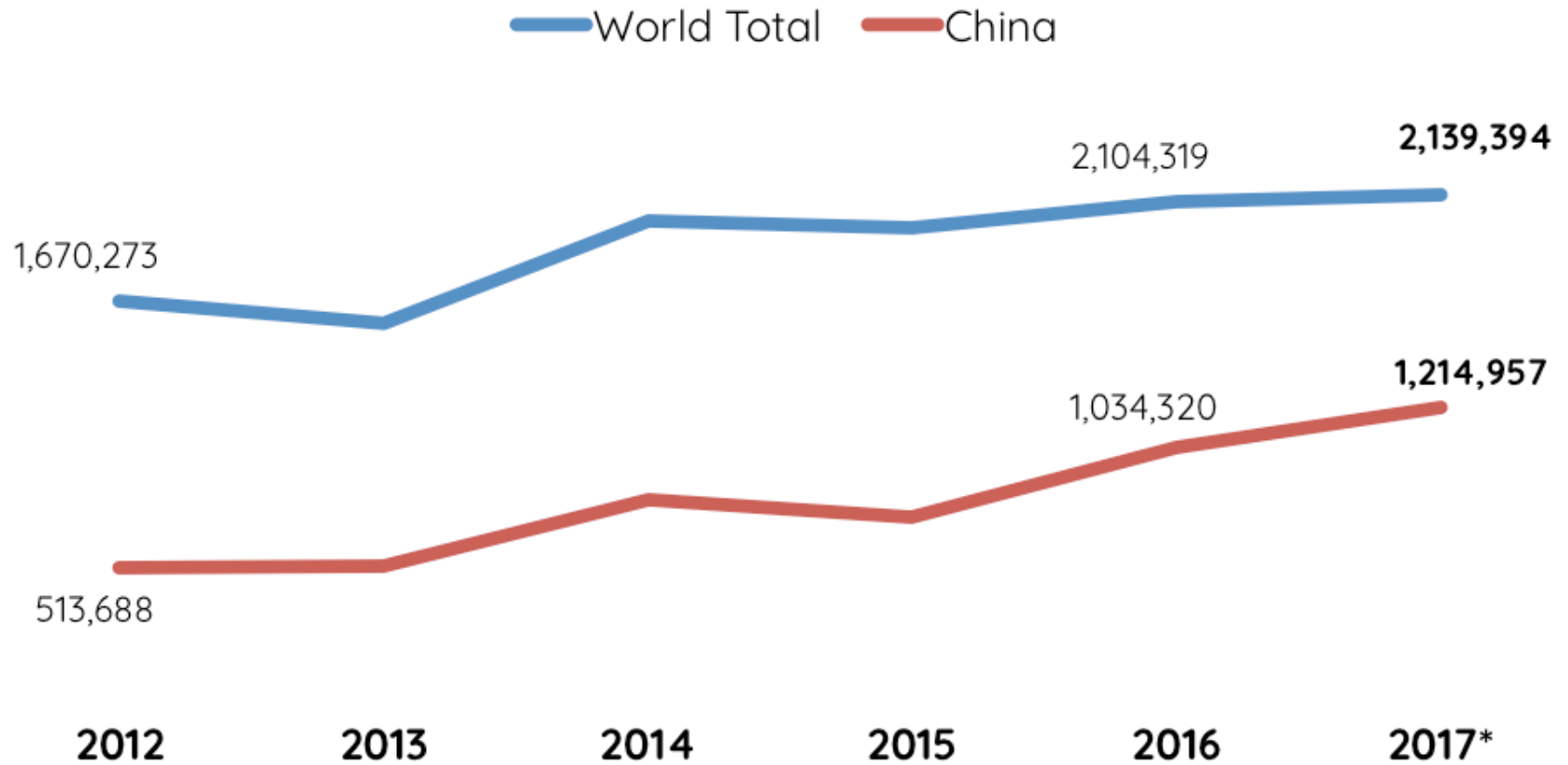
US Hardwood Log Exports



U.S. HW Exports - Volume



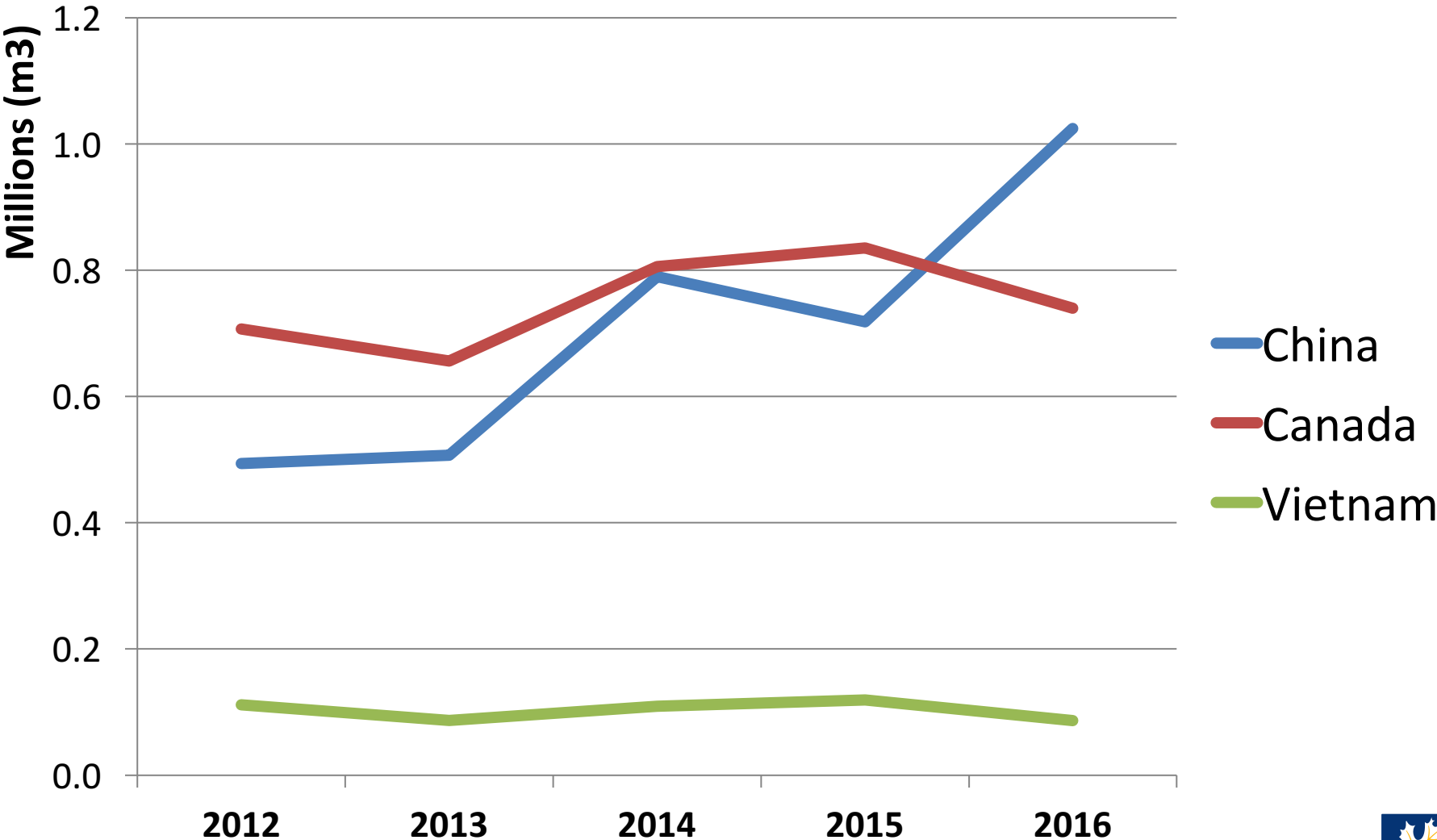
US Hardwood Log Exports (m3)



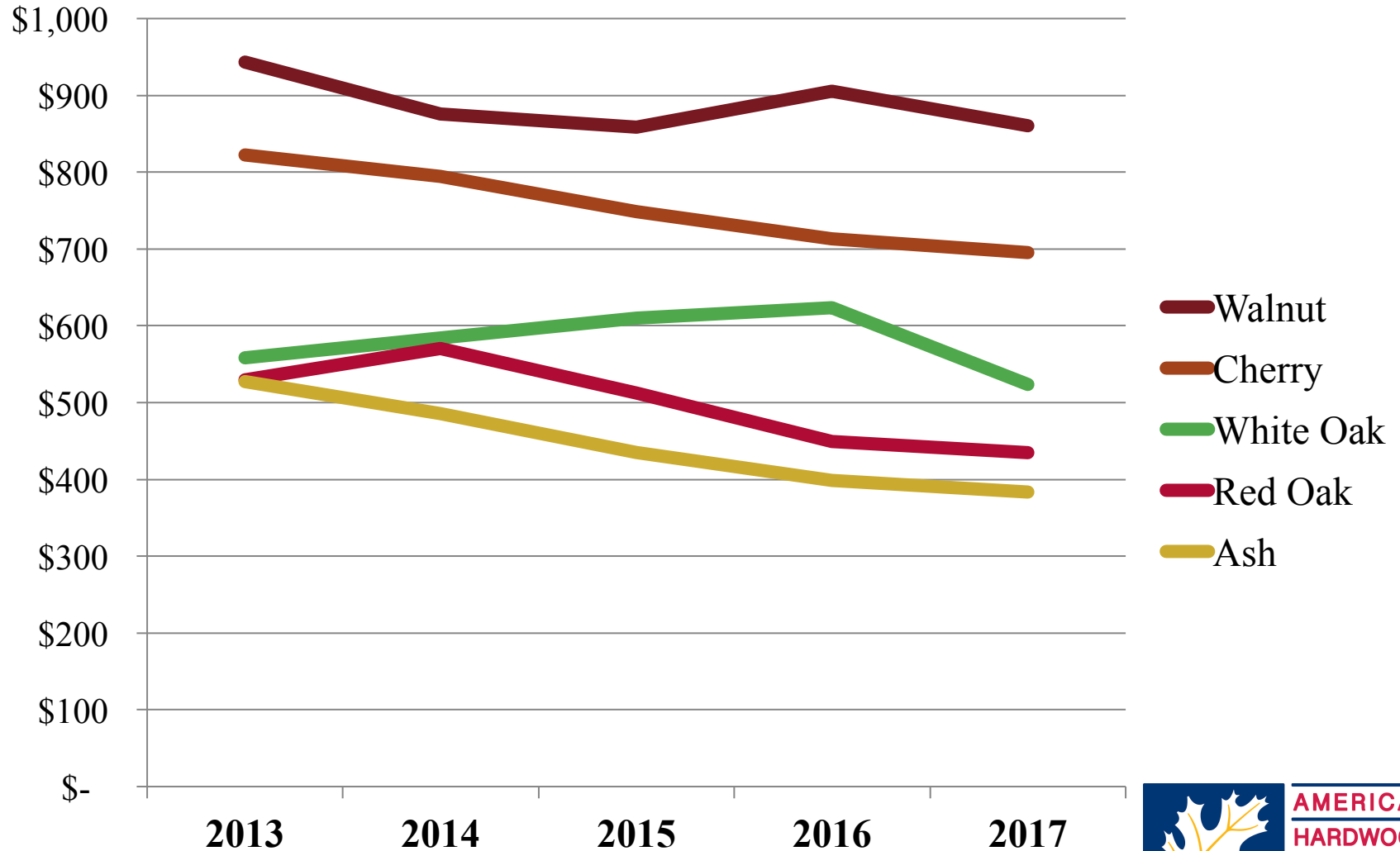
*2017 Data Annualized. Source: USDA GATS



Top US Hardwood Log Export Destinations

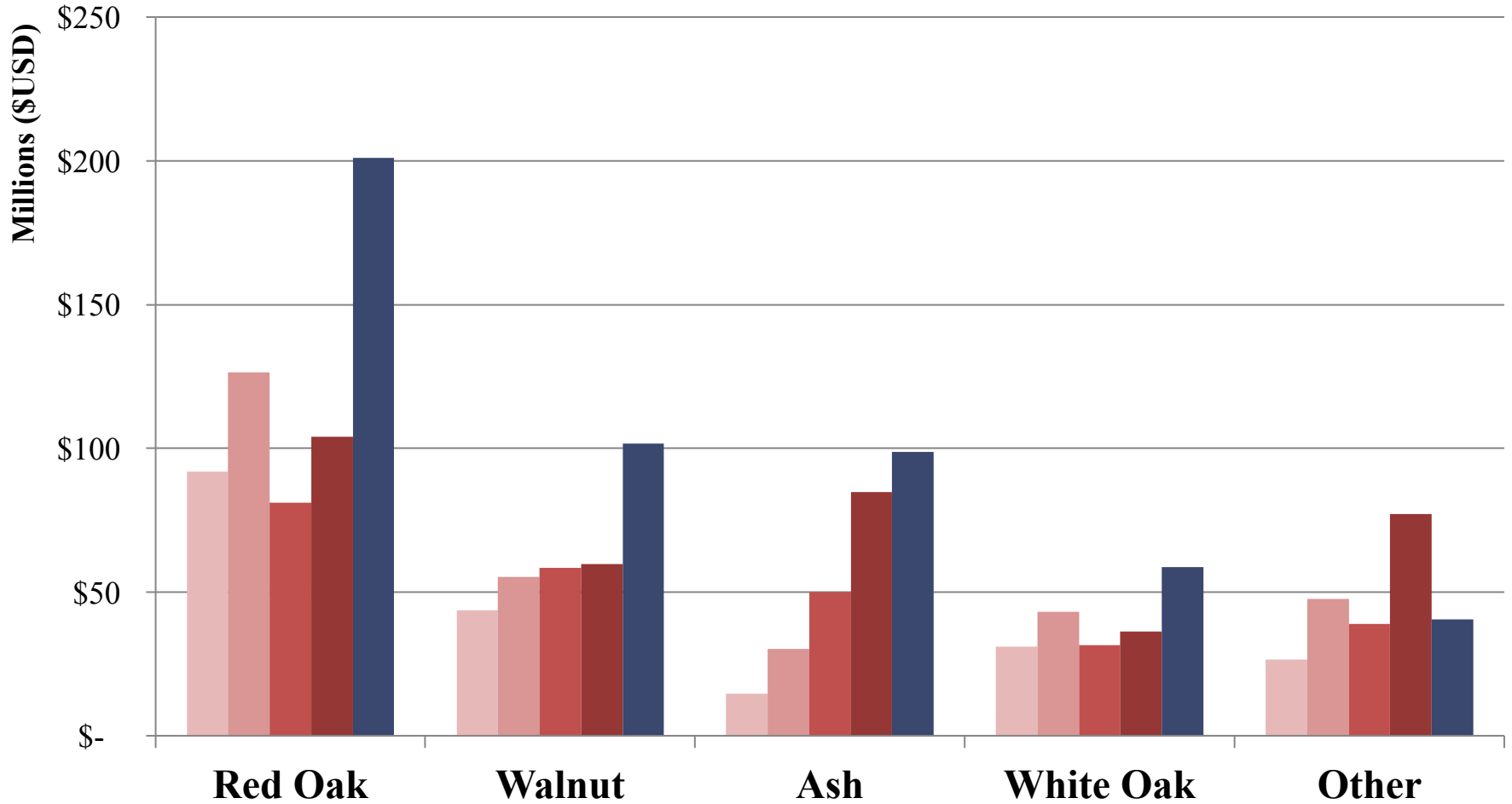


Average Value \$USD per m3 of Logs Exported to China

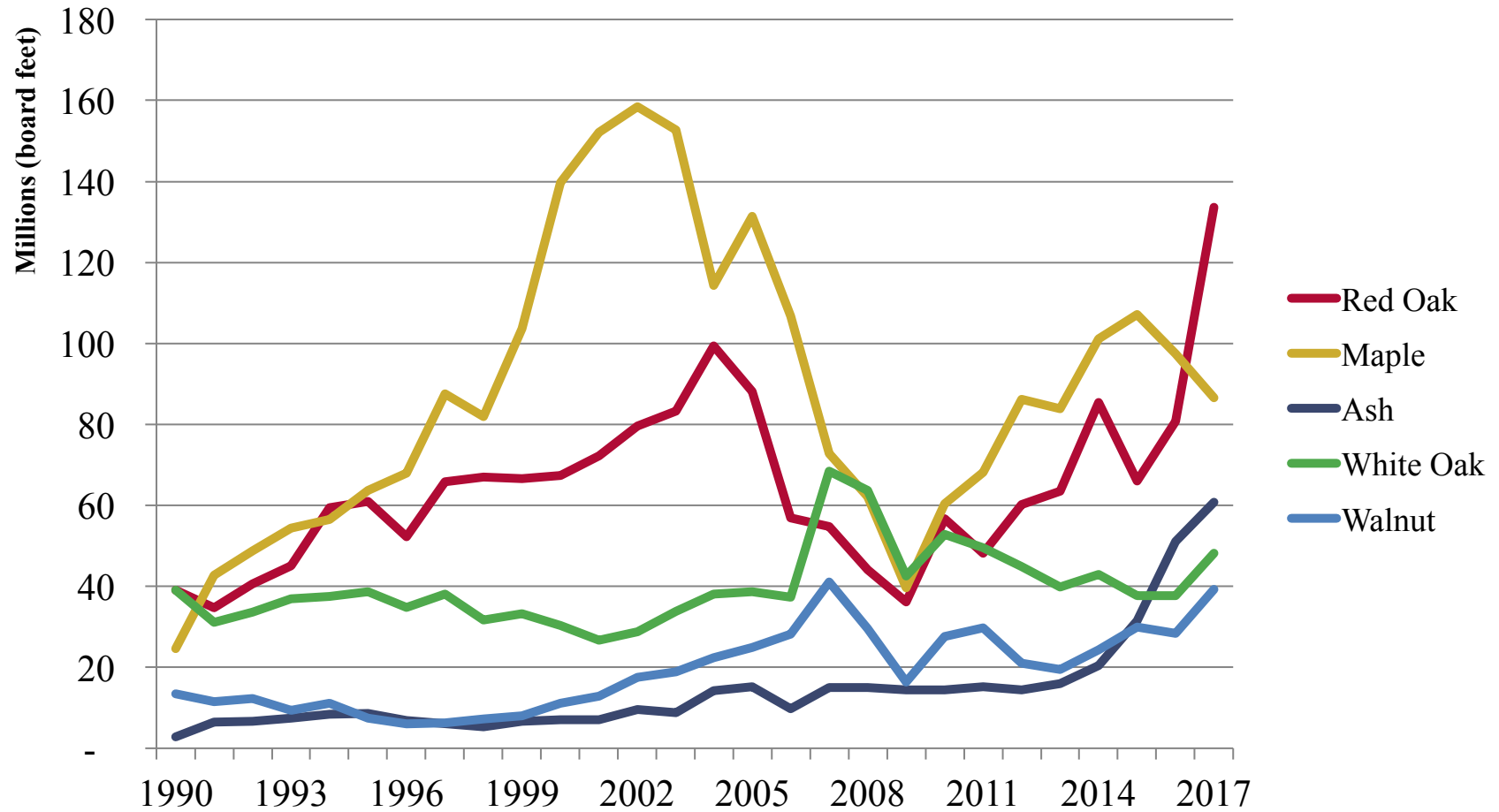


US Hardwood Log Exports to China \$USD

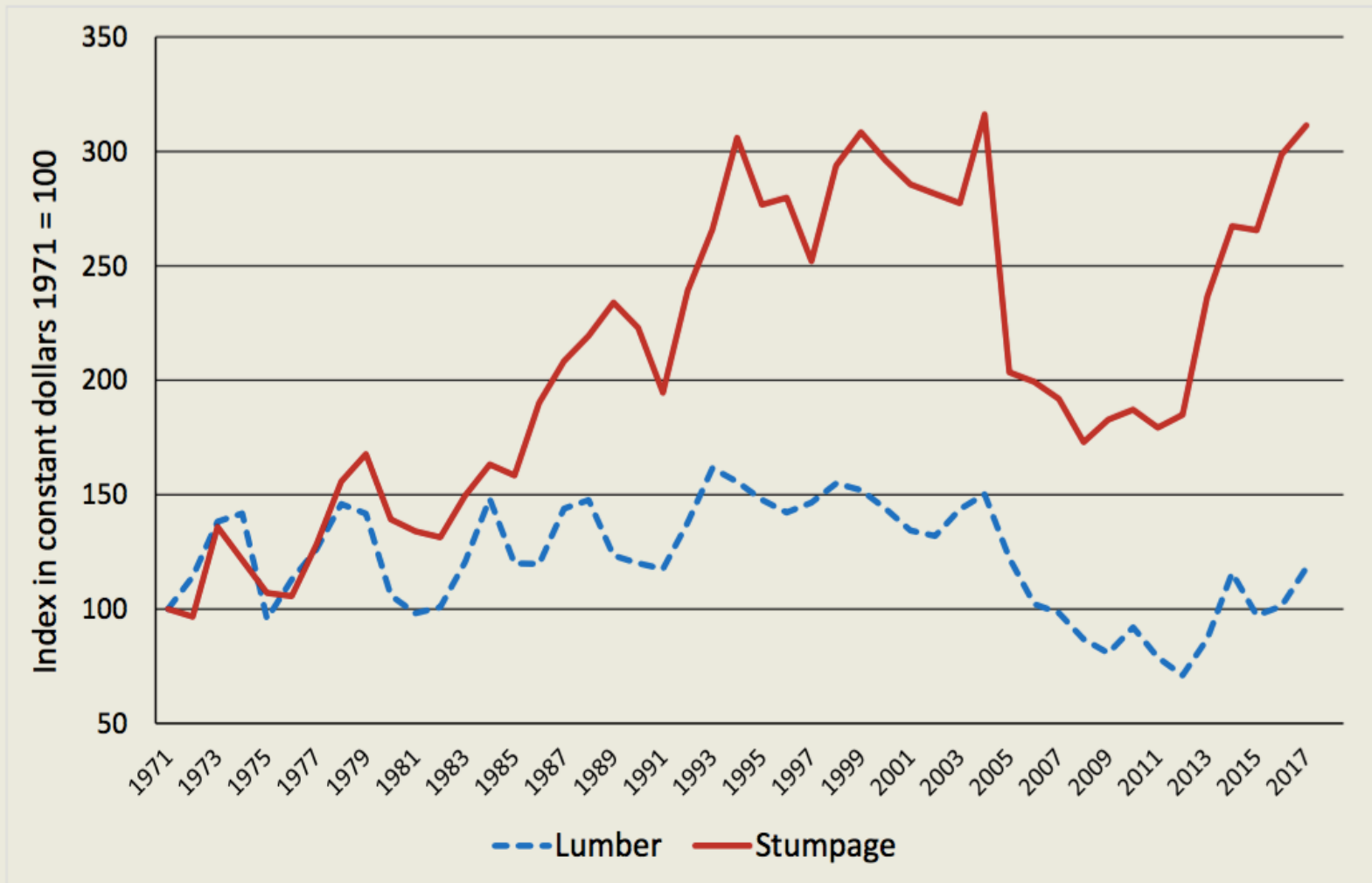
2013 2014 2015 2016 2017



US Hardwood Log Exports by Species in Board Feet

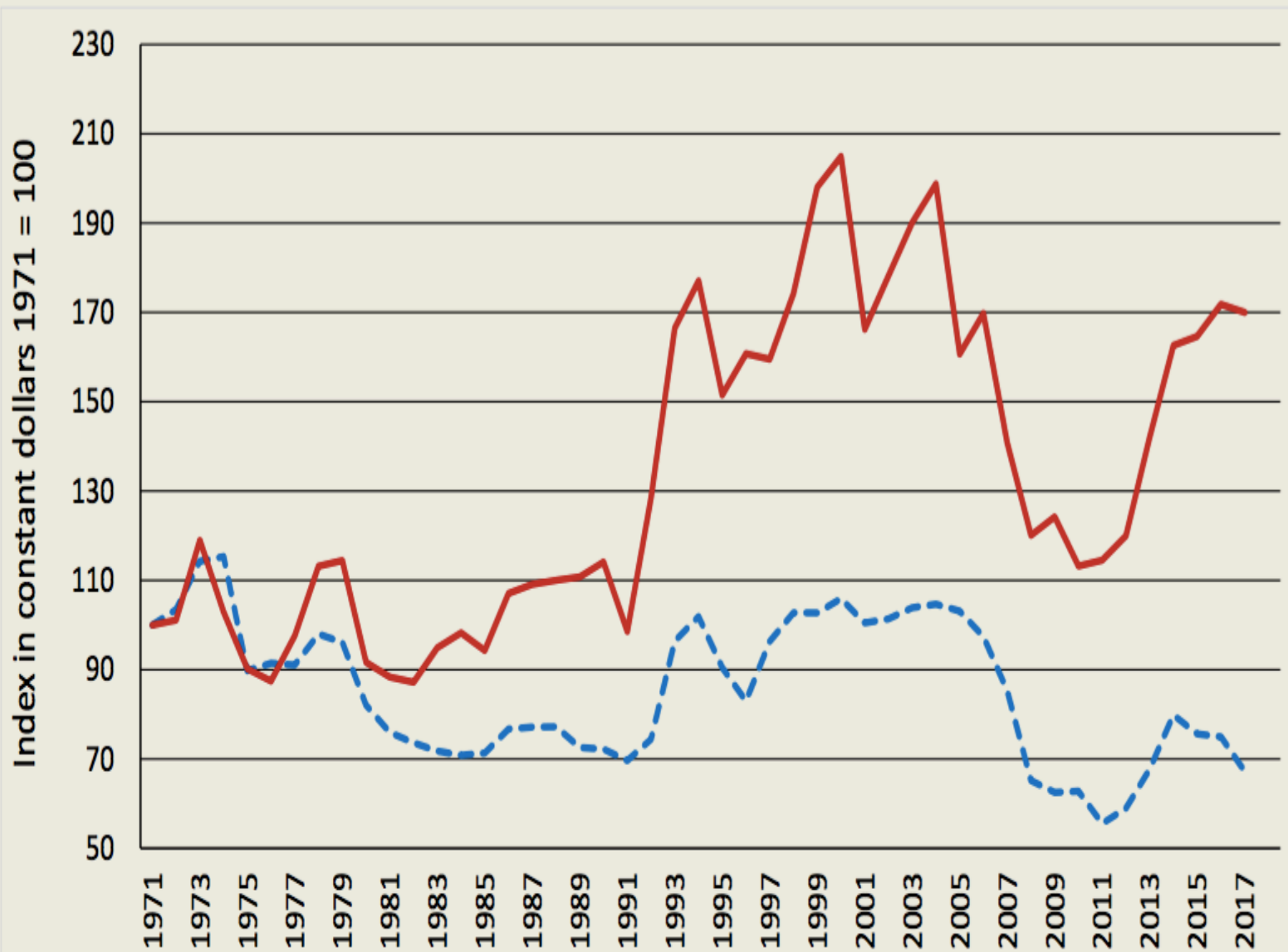


Deflated price indexes for composite red and white oak lumber and stumpage

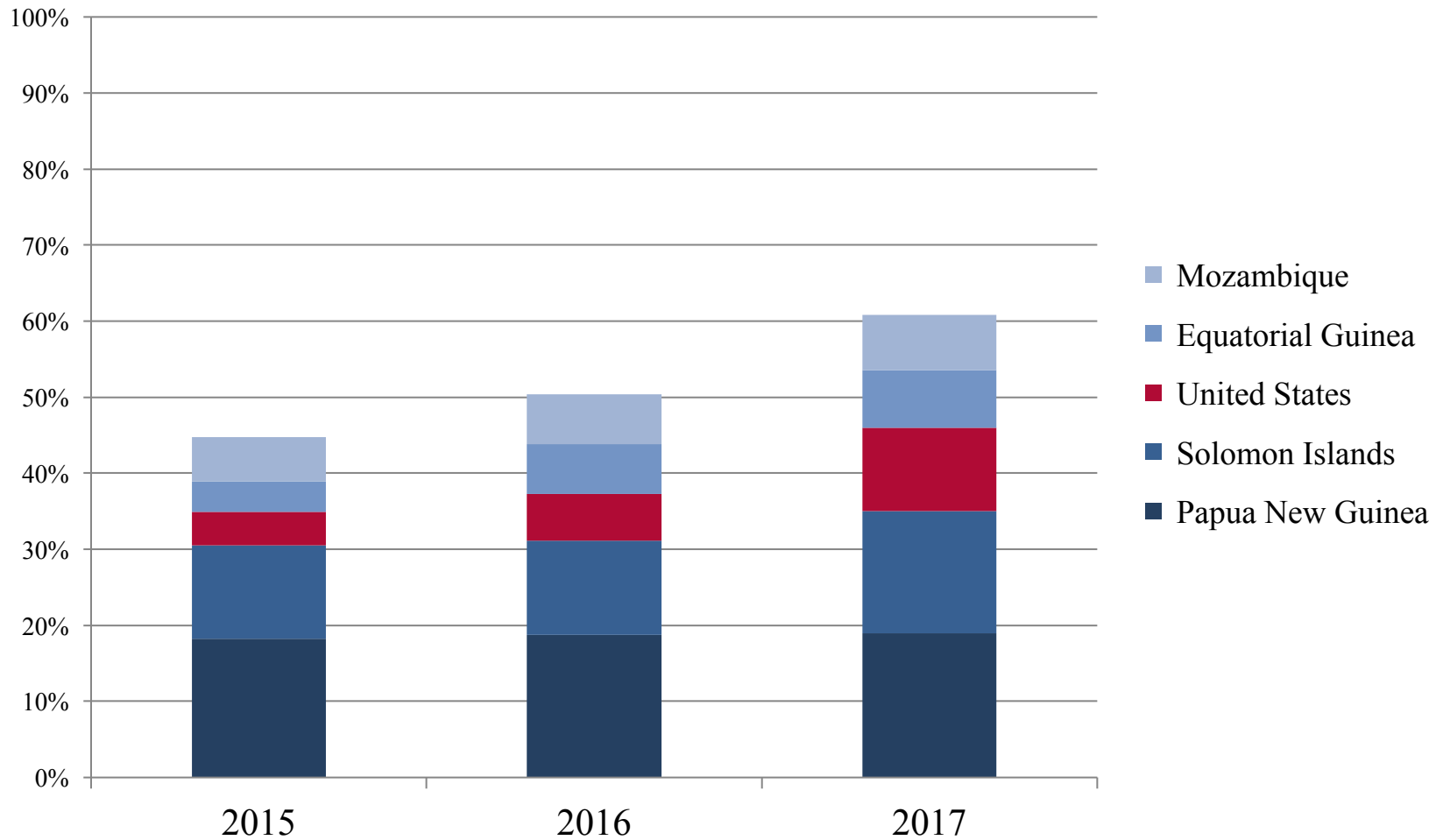


Sources: Luppold; Hardwood Market Report; OSU Extension & ODNR; U.S. Dept. of Labor

hard maple, soft maple, cherry, ash, hickory, and walnut lumber and stumpage

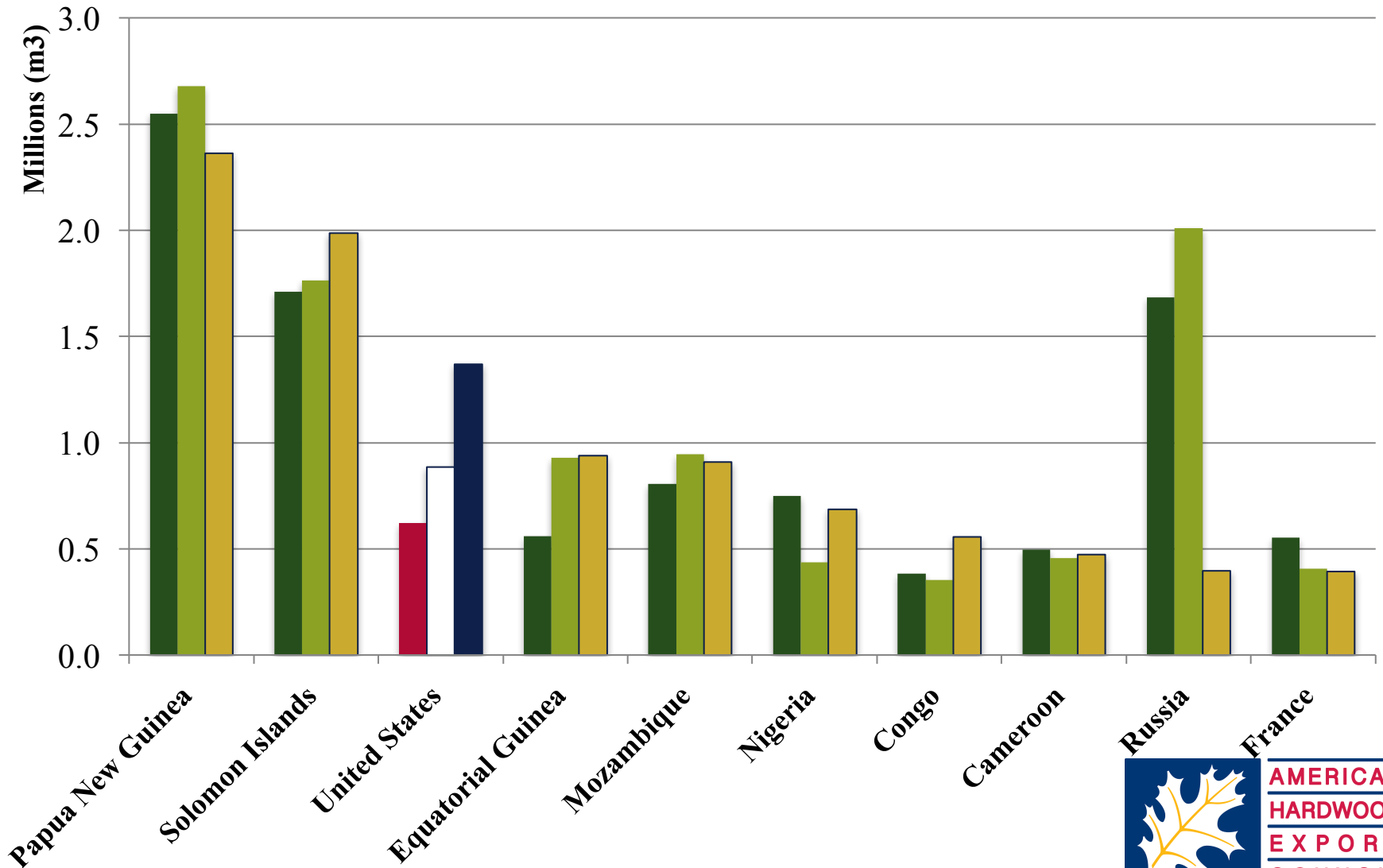


China's Hardwood Log Imports Market Share by Volume



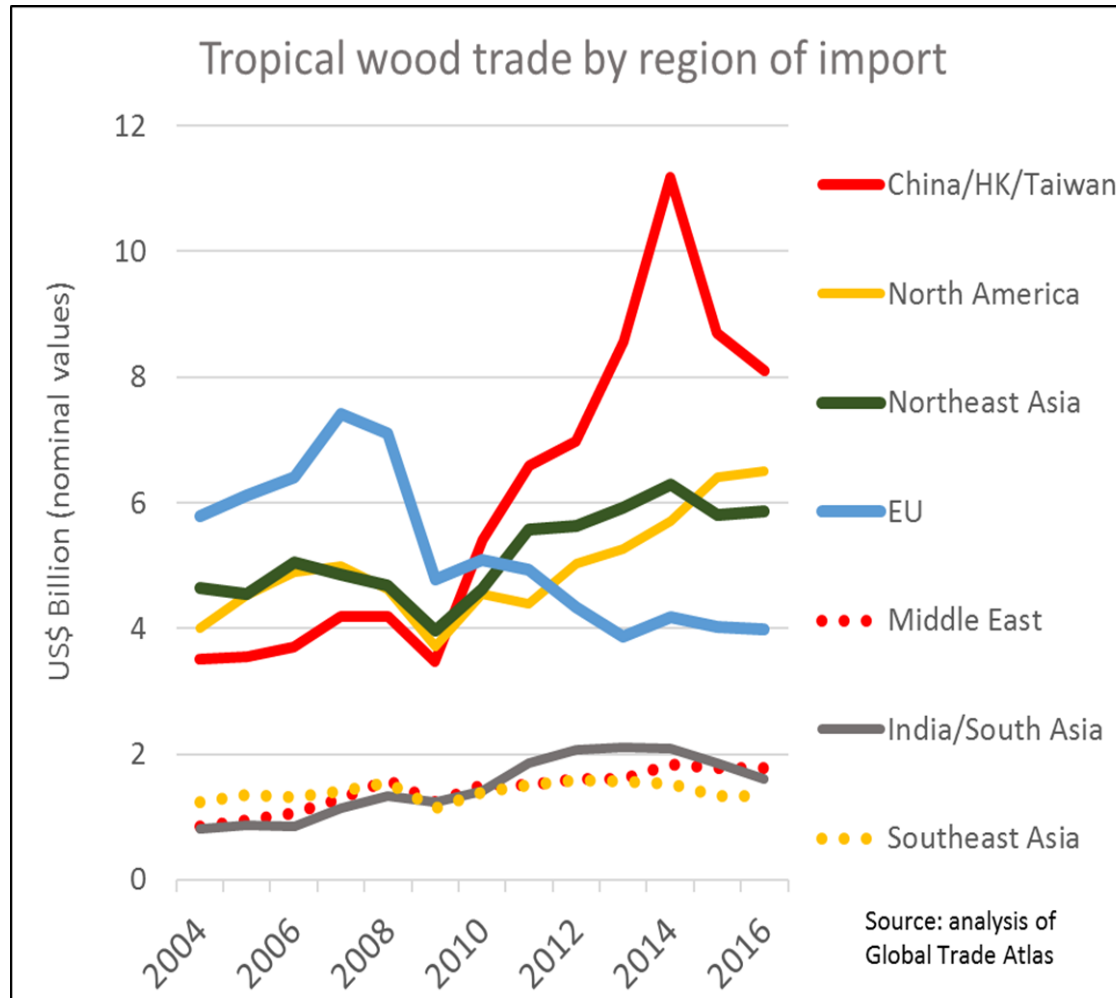
China's Import Of Hardwood Logs

■ 2015 ■ 2016 ■ 2017

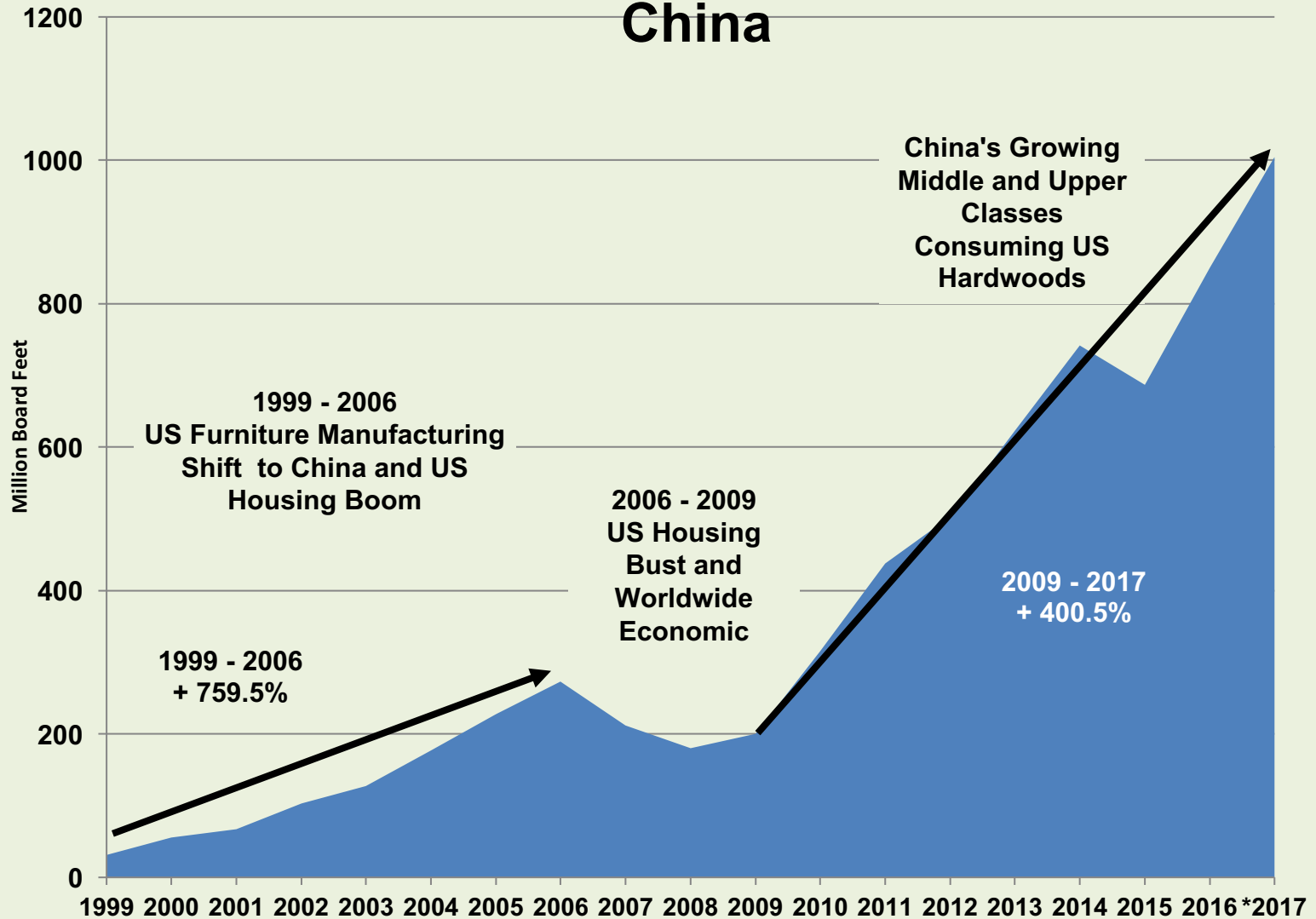


CHALLENGES TO PREVAILING “SUSTAINABLE TIMBER” CONCEPT

TRADE SHIFTING TO “LESS SENSITIVE” EMERGING MARKETS



US Exports of Hardwood Lumber to China



Source: USDA FAS

Graph: HMR

Map of China

Locations of provinces,
autonomous regions
and municipalities.



April 27, 2018: China Halts Hardwood Log Imports from US

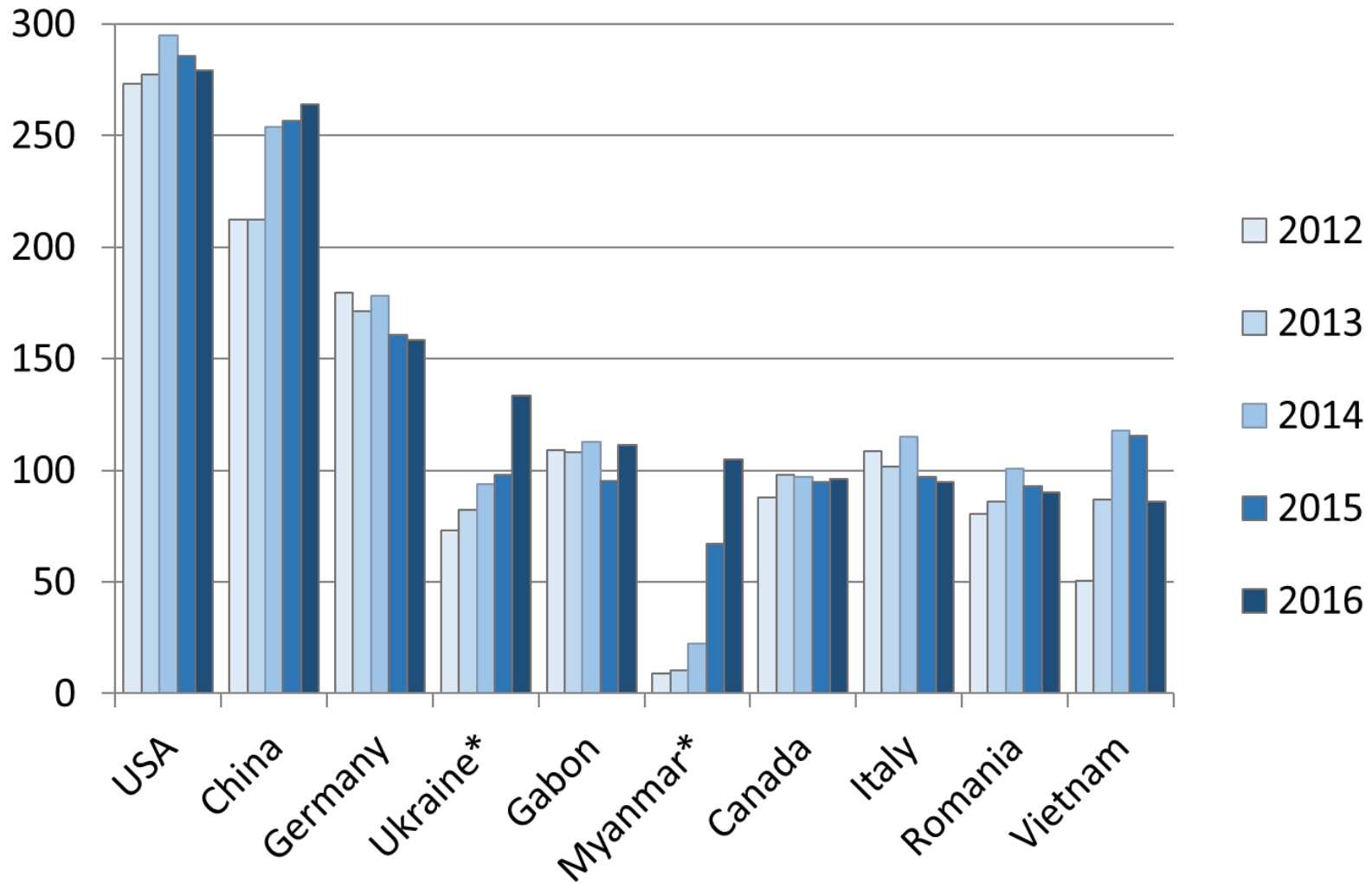




Veneer Trade:

Changes in Global Flows

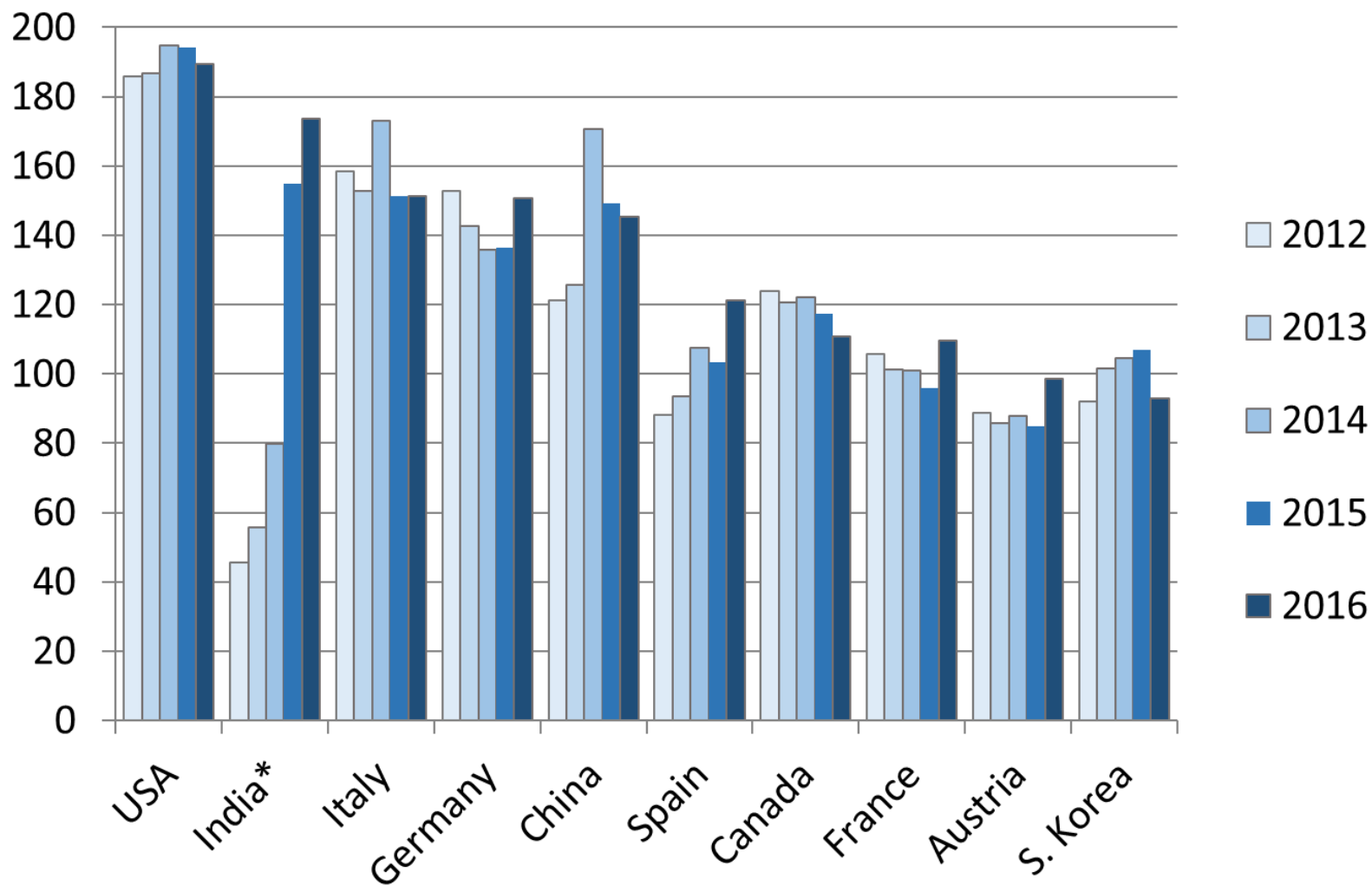
The world's 10 largest hardwood veneer exporters 2012-2016 (\$ million)



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

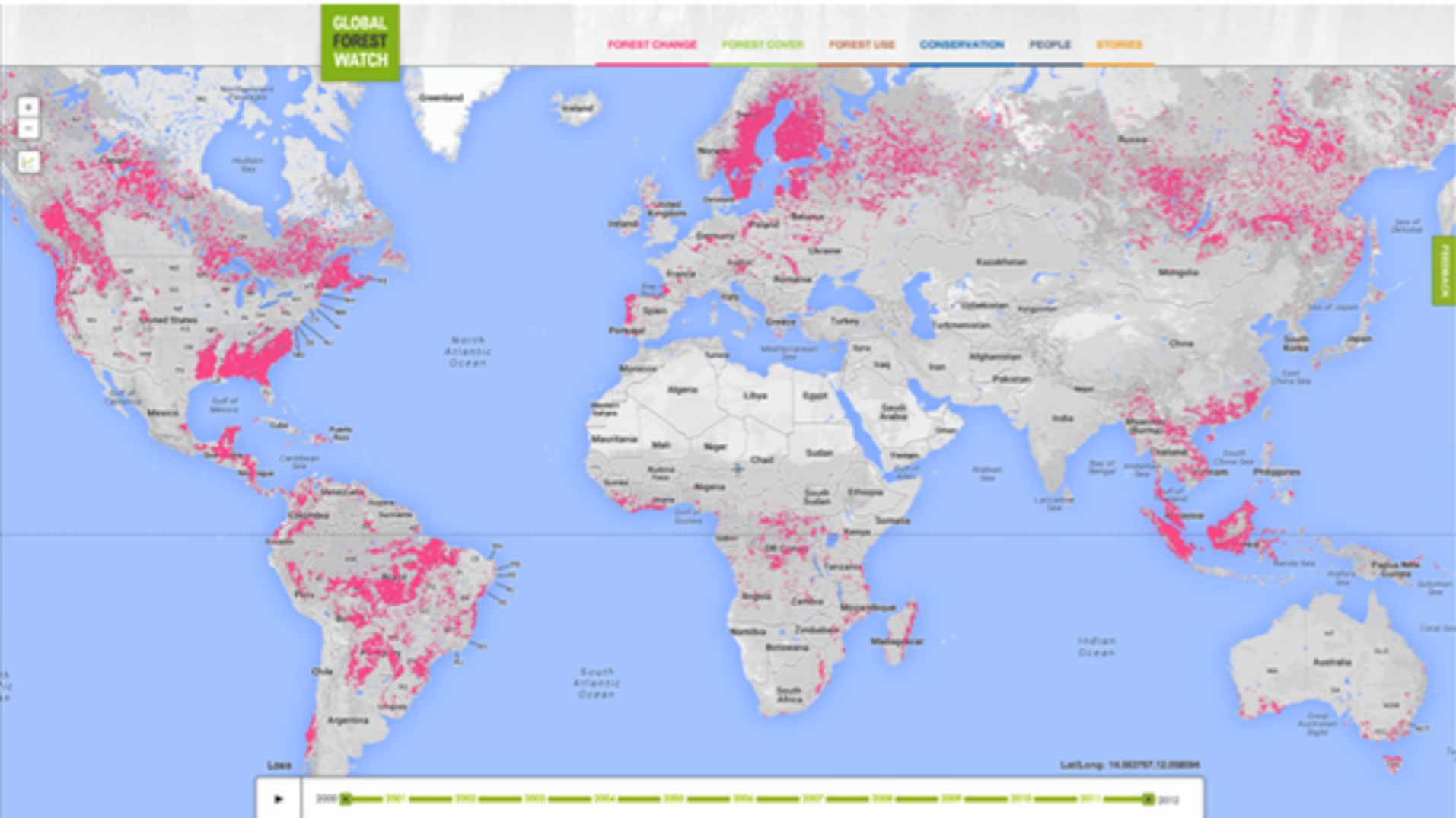
Source: Global Trade Atlas

The world's 10 largest hardwood veneer importers 2012-2016 (\$ million)



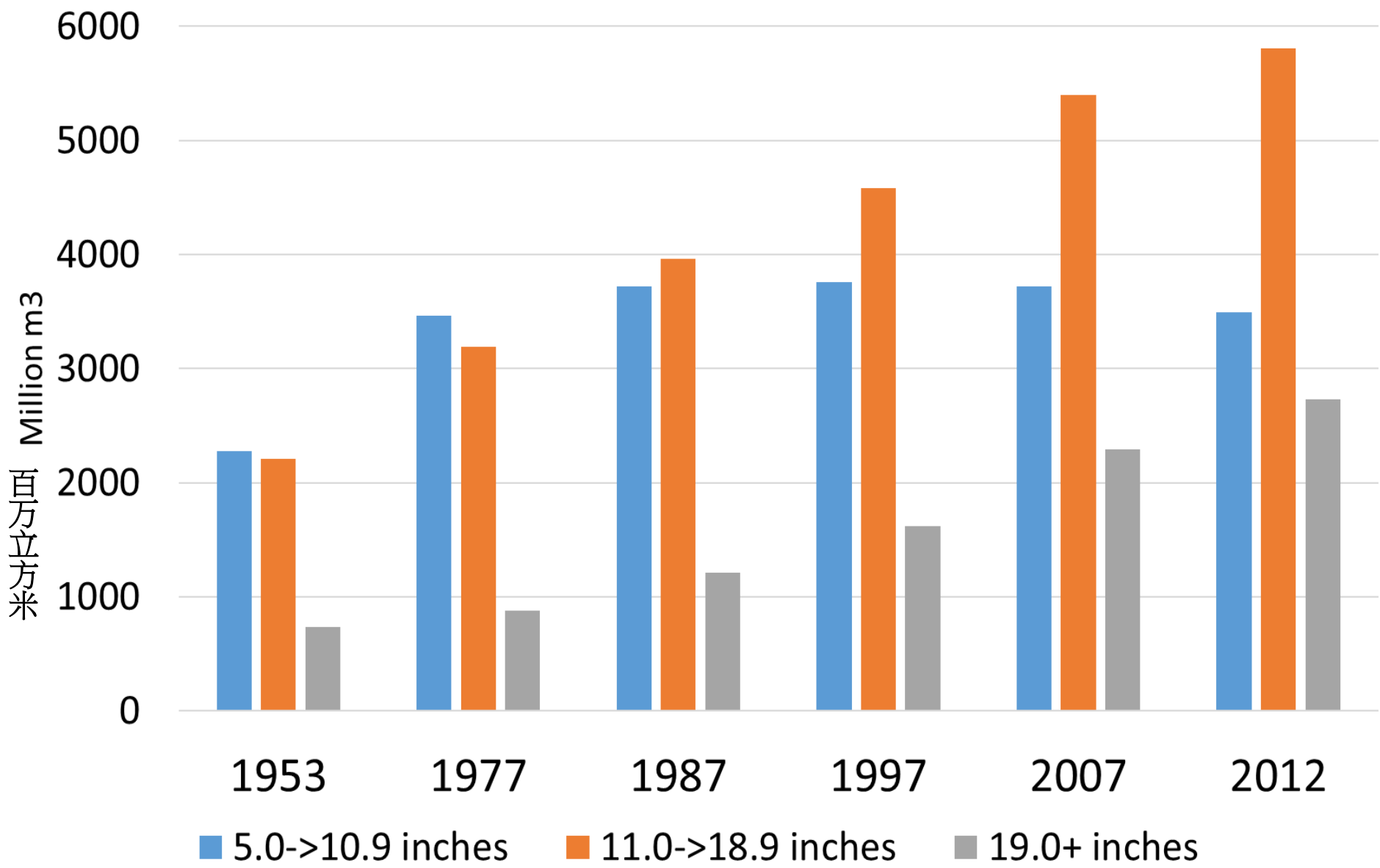
* Sharp rise in India's veneer imports follows Myanmar log export ban (from Apr 2014)

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



Start New...

**FIA Standard Reports**

Produce standard FIA reports on your own selection of states, counties, and survey year(s) ... You can also select from a wide range of custom filters.

**Custom Retrievals**

Customize a retrieval for your own specific needs or build new, user-defined report templates.

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 COUNTY LEVEL

DATA AT A NATIONAL LEVEL



GROWTH OF RED OAK ACROSS THE U.S.

Select data map

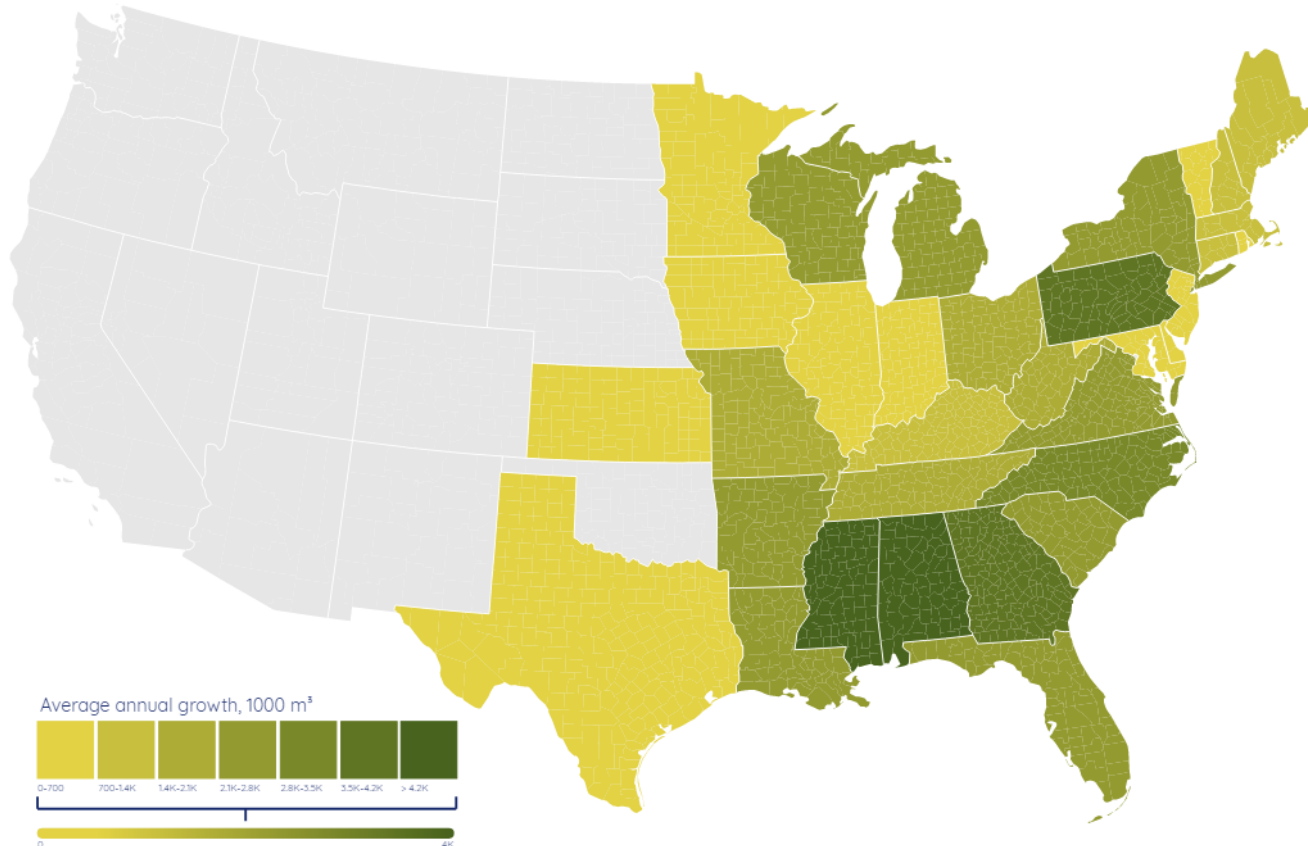
GROWTH

Select species

AMERICAN RED OAK

Select state (list or click on map)

WHOLE MAINLAND U.S.



All data derives from Forest Inventory Data Online (FIDO), a component of the U.S. Forest Service Inventory and Analysis Program (FIA). Data was compiled by AHEC 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 FIA (see glossary). FIA growth data is available for 45 U.S. states accounting for 97.9% of commercially significant hardwood forest volume.

DATA AT A COUNTY LEVEL

Select data map

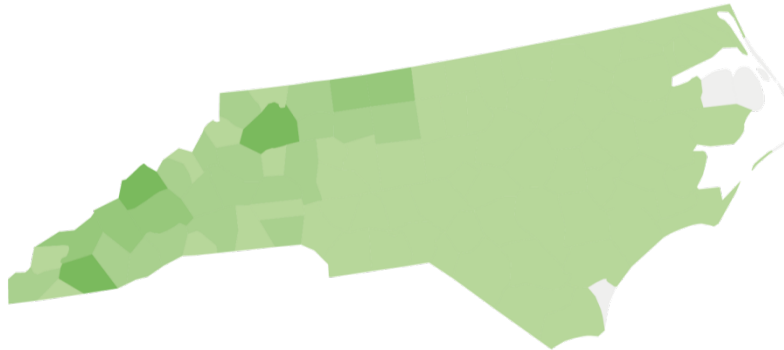
FOREST VOLUME

Select species

AMERICAN TULIPWOOD

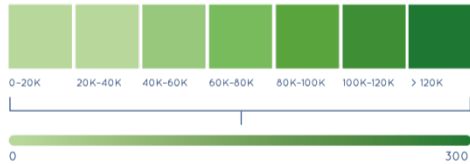
Select state (list or click on map)

NORTH CAROLINA



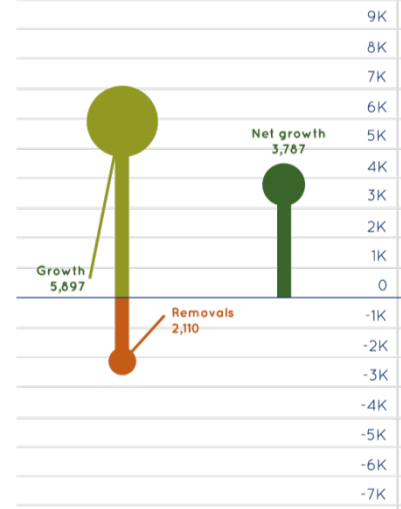
[Back to whole of U.S.](#)

Volume of live trees on forest land, 1000 m³

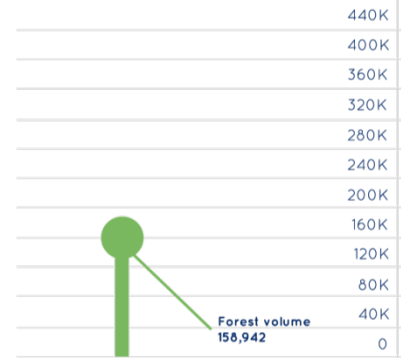


All data derives from Forest Inventory Data Online (FIDO), a component of the U.S. Forest Service Inventory and Analysis Program (FIA). Data was compiled by AHEC in January 2016 using the most recent state inventory available (2014 for most states). "Forest volume" refers to "Net volume of live trees on forest land" as defined by FIA. FIA forest volume data is available for 49 U.S. states (Hawaii and Washington D.C. are omitted) with total hardwood forest volume of 18.1 billion m³ of which 13.5 billion m³ are commercially significant. "Growth" refers to "Net annual growth of live trees on forest land" as defined by FIA. FIA forest volume data is available for 49 U.S. states (Hawaii and Washington D.C. are omitted) with total hardwood forest volume of 18.1 billion m³ of which 13.5 billion m³ are commercially significant.

GROWTH AND REMOVALS, 1000 m³



FOREST VOLUME, 1000 m³



NEW ON LINE SPECIES GUIDE WITH FOREST MAP AND LCA TOOLS

AMERICAN RED OAK

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

Global Warming Potential (Kg CO₂e): 403

Primary Energy Demand from Resources (MJ): 800

Primary Energy Demand from Renewables (MJ): 800

Freshwater Eutrophication Potential (Kg P eq): 0.0007

Marine Eutrophication Potential (Kg N eq): 0.0007

Photochemical Ozone Creation Potential (Kg NMVOC): 0.0007

Resource Depletion (Kg SB eq): 0.0007

Key: Carbon uptake, Forestry, Drying, Sawmill, Transport Forest-Kiln, Transport Kiln-Customer

LIFE CYCLE ASSESSMENT TOOL

AMERICAN RED OAK

4/4 (1") LUMBER

EAST COAST USA

EUROPE

RESET

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 (i.e. 50% conversion efficiency). The rapid rate of replacement is due to the very large volume of hardwood trees in U.S. forest.

Global Warming Potential (Kg CO₂e)

Primary Energy Demand from Resources (MJ)

Primary Energy Demand from Renewables (MJ)

Acidification Potential (Moles of H+eq)

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, Forestry, Drying, Sawmill, Transport Forest-Kiln, Transport Kiln-Customer

data for presentation purposes only

Use	Global Warming Potential (Kg CO ₂ e)	Primary Energy Demand from Resources (MJ)	Primary Energy Demand from Renewables (MJ)	Acidification Potential (Moles of H+eq)	Freshwater Eutrophication Potential (Kg P eq)	Marine Eutrophication Potential (Kg N eq)	Photochemical Ozone Creation Potential (Kg NMVOC)	Resource Depletion (Kg SB eq)
Forestry	403	800	800	0.0007	0.0007	0.0007	0.0007	0.0007
Drying	403	800	800	0.0007	0.0007	0.0007	0.0007	0.0007
Sawmill	403	800	800	0.0007	0.0007	0.0007	0.0007	0.0007
Transport Forest-Kiln	403	800	800	0.0007	0.0007	0.0007	0.0007	0.0007
Transport Kiln-Customer	403	800	800	0.0007	0.0007	0.0007	0.0007	0.0007
Carbon uptake	403	800	800	0.0007	0.0007	0.0007	0.0007	0.0007
Total	403	800	800	0.0007	0.0007	0.0007	0.0007	0.0007

IMPACT CATEGORIES

GLOBAL WARMING POTENTIAL

Often termed "carbon footprint". Expressed in kg of carbon dioxide equivalent. The sum of the warming potential of all gases emitted (including CO₂, methane and water vapour) when influence the energy balance of the atmosphere leading to increased average temperatures.

PRIMARY ENERGY DEMAND FROM RESOURCES

Use of fossil fuels in mega-joules. The impact category has limited equivalence to use of fossil fuels and is not differentiable between energy sources (e.g. oil, coal, gas, biomass). However, it is an important driver of other environmental impacts including global warming, acidification, eutrophication, and resource depletion.

PRIMARY ENERGY DEMAND FROM RENEWABLES

Use of energy derived from renewable raw materials in mega-joules.

ACIDIFICATION POTENTIAL

Potential for acidification of soil and damage to plant health resulting from emissions to air, water and land of acidifying compounds, such as sulphur dioxide (SO₂) and nitrogen oxides (NO_x). Expressed in moles of H+ equivalent.

FRESHWATER EUTROPHICATION POTENTIAL

Nutrient enrichment of waters by release of phosphorus or nitrogen compounds (such as fertilisers and sewage matter (sludge) in effluents). This causes excess growth of plant matter and depletion of oxygen levels in the water. Expressed in kg of phosphorus equivalent.

MARINE EUTROPHICATION POTENTIAL

Nutrient enrichment of waters by release of phosphorus or nitrogen compounds (such as fertilisers and sewage matter (sludge) in effluents). This causes excess growth of plant matter and depletion of oxygen levels in the water. Expressed in kg of phosphorus equivalent.

PHOTOCHEMICAL OZONE CREATION POTENTIAL

Often referred to as "photochemical smog". Increased levels of ozone at ground level arise from the reaction of volatile organic compounds, for example ethane, with oxygen compounds or oxides of nitrogen in air, under the influence of sunlight. The problem affects modern cities and impacts human health and reduces vegetative production. Expressed in kg of ethane equivalent.

RESOURCE DEPLETION

Measures depletion of non-renewable mineral resources. Calculated from the ratio of annual production to size of remaining reserves for all minerals consumed. Expressed in relation to the ratio for the mineral Antimony (Sb).

HOME AMERICAN HARDWOOD

EXAMPLES

LIBRARY

ABOUT

ENVIRONMENTAL PROFILE

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LIFE CYCLE ASSESSMENT TOOL

AMERICAN RED OAK

4/4 (1") LUMBER

EAST COAST USA

EUROPE

RESET

1.75 seconds it takes 1.75 seconds to grow 1m³ of American Red Oak

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Global Warming Potential (Kg CO₂e)

Primary Energy Demand from Resources (MJ)

Primary Energy Demand from Renewables (MJ)

Acidification Potential (Moles of H+eq)

Freshwater Eutrophication Potential (Kg P eq)

Marine Eutrophication Potential (Kg N eq)

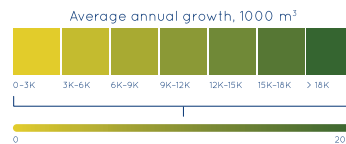
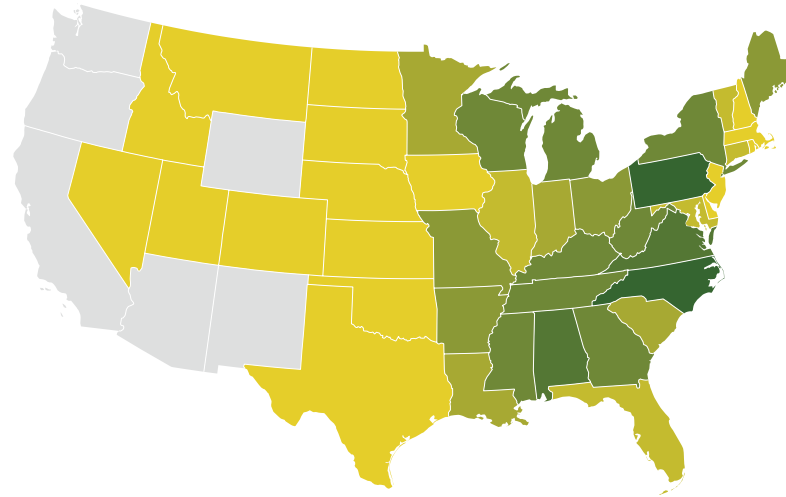
Photochemical Ozone Creation Potential (Kg NMVOC)

Resource Depletion (Kg SB eq)

Key: Carbon uptake, Forestry, Drying, Sawmill, Transport Forest-Kiln, Transport Kiln-Customer



EVERY TWO MINUTES THE U.S. HARDWOOD FOREST GROWS BY THE SIZE OF A FOOTBALL FIELD

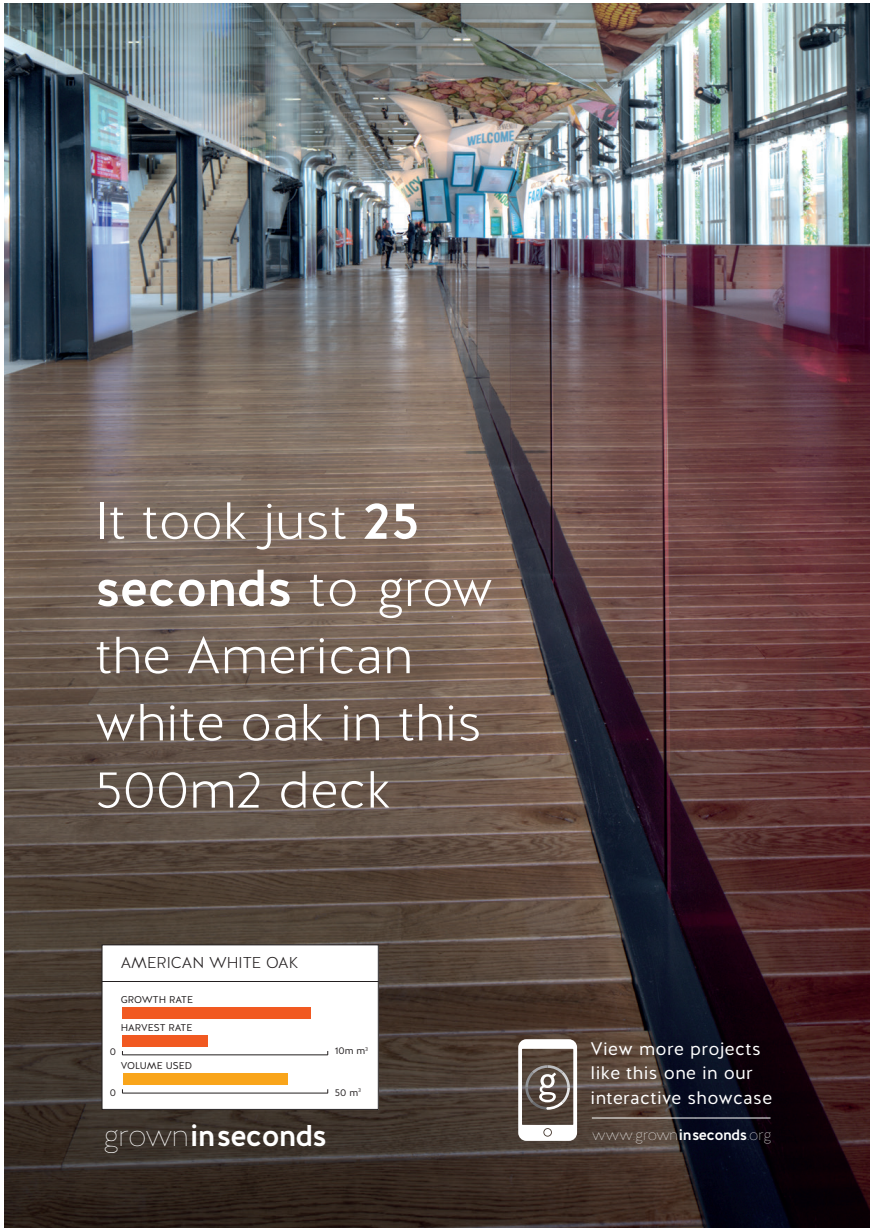


Our unique, online interactive map uses published US Forest Service data to show national and regional distribution, growth and removal information for most of the main commercial American hardwood species

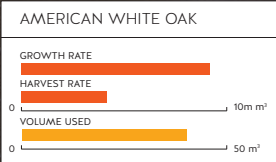


To find out more visit AMERICANHARDWOOD.ORG





It took just **25 seconds** to grow the American white oak in this 500m2 deck



growninseconds



View more projects like this one in our interactive showcase

www.growninseconds.org



It took just **25 seconds** to grow the American white oak used in this project

growninseconds



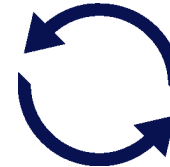
View more projects like this one in our interactive showcase

www.growninseconds.org

LIFE CYCLE ASSESMENT



**3 SECONDS TO
REPLENISH THE
WALNUT**



**TOTAL CARBON
FOOTPRINT: 17KG
C02**



**134 KG C02
STORED**



**ONLY 7% OF
TIMBER WASTED**

Questions?

www.americanhardwood.org

www.ahec.org

