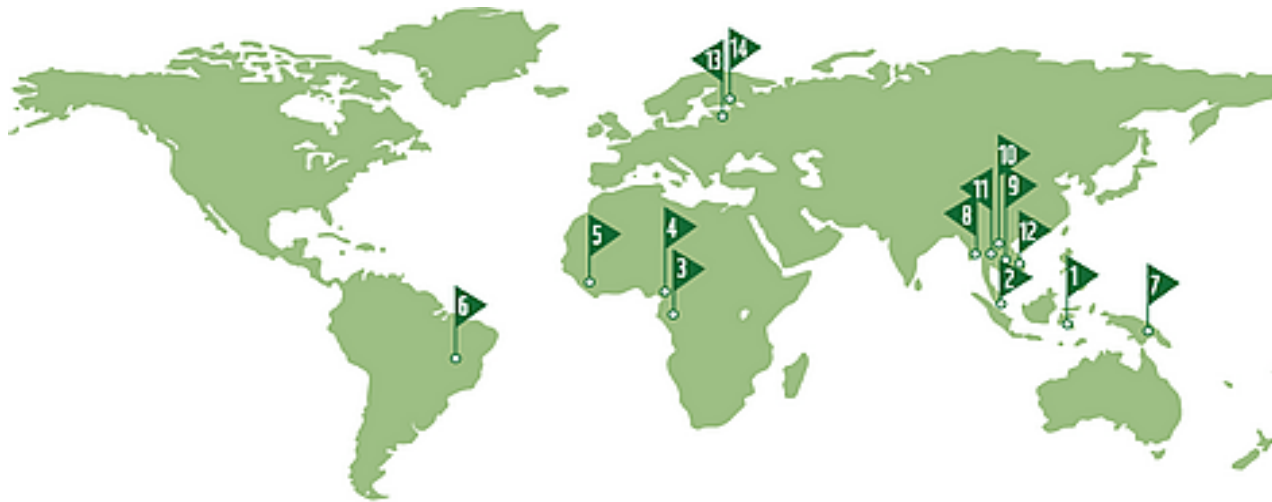




Using DNA to identify illegal and conflict timber in global supply chains

Andrew Lowe, Eleanor Dormontt, Arif Malik and Darren Thomas

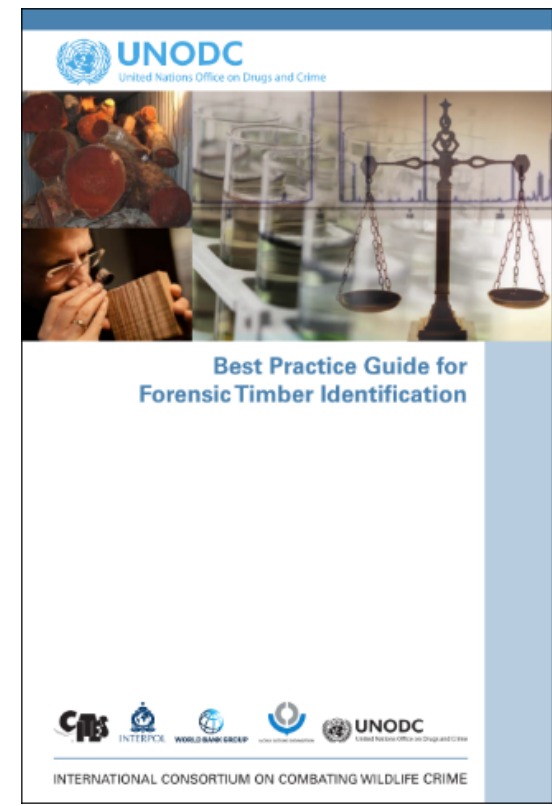
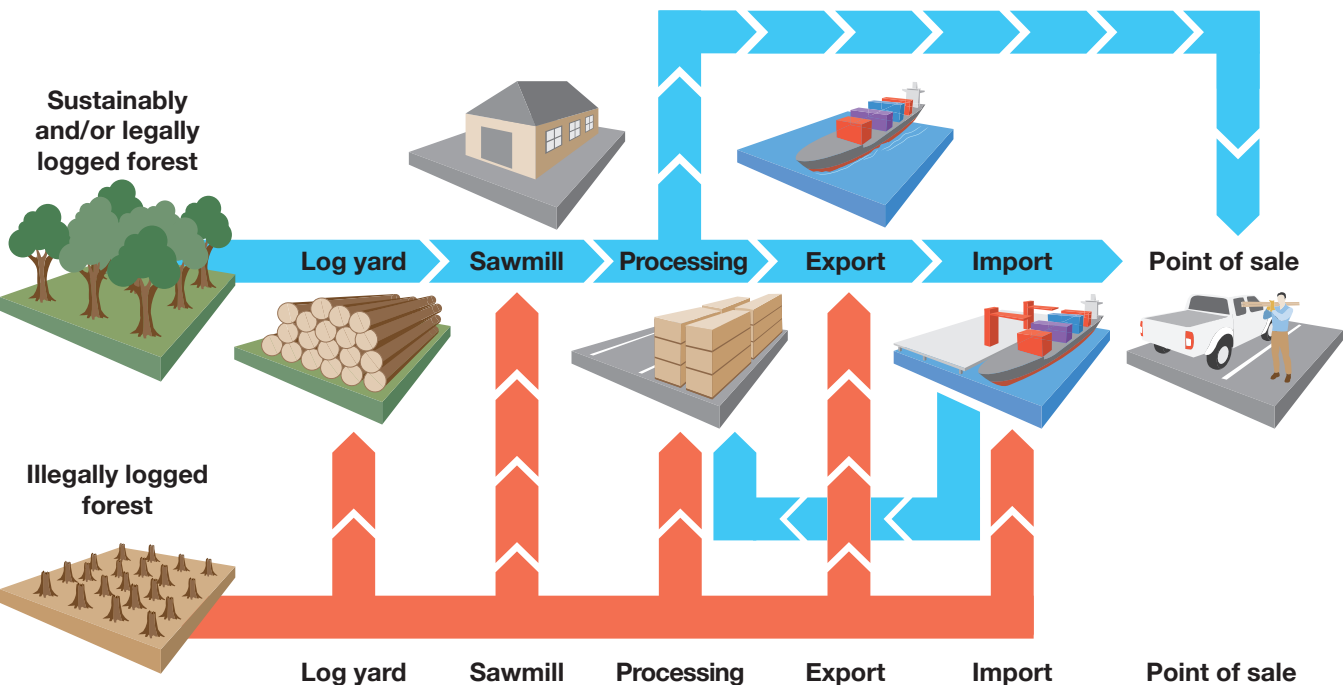


#### REPORT ESTIMATES: % OF ILLEGAL LOGGING

1. INDONESIA : 70 - 80% 2. MALAYSIA: UP TO 35% 3. GABON: 50 - 70% 4. CAMEROON: 50%  
 5. LIBERIA: 80% 6. BRAZIL : UP TO 90% 7. PAPUA NEW GUINEA: 70% 8. MYANMAR : 50%  
 9. CAMBODIA: 90% 10. LAOS: 45% 11. THAILAND: 40% 12. VIETNAM: 20 - 40%  
 13. LATVIA: 20% 14. ESTONIA: 50%

\$30-100 billion per annum

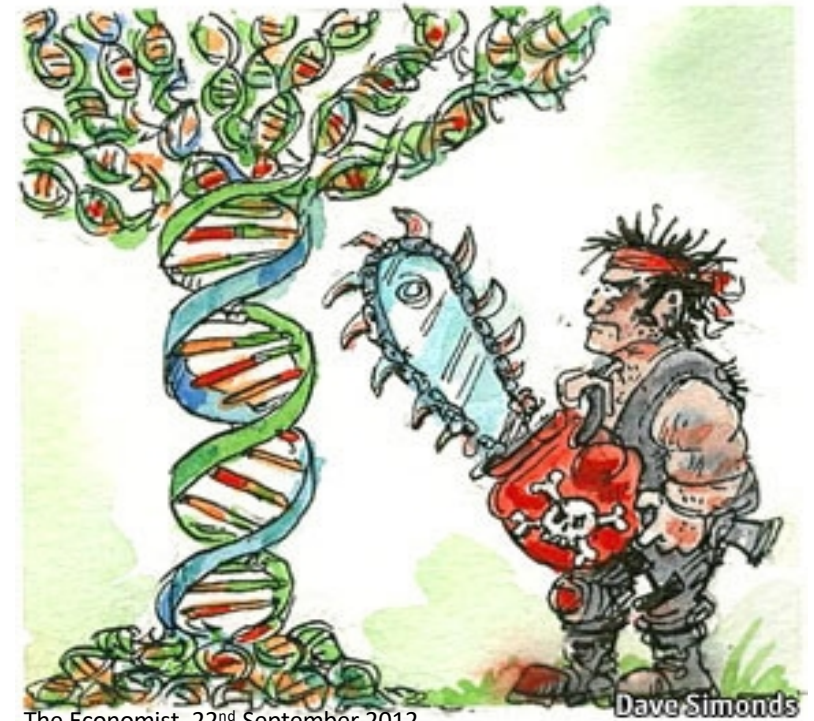




# International Consortium on Combating Wildlife Crime

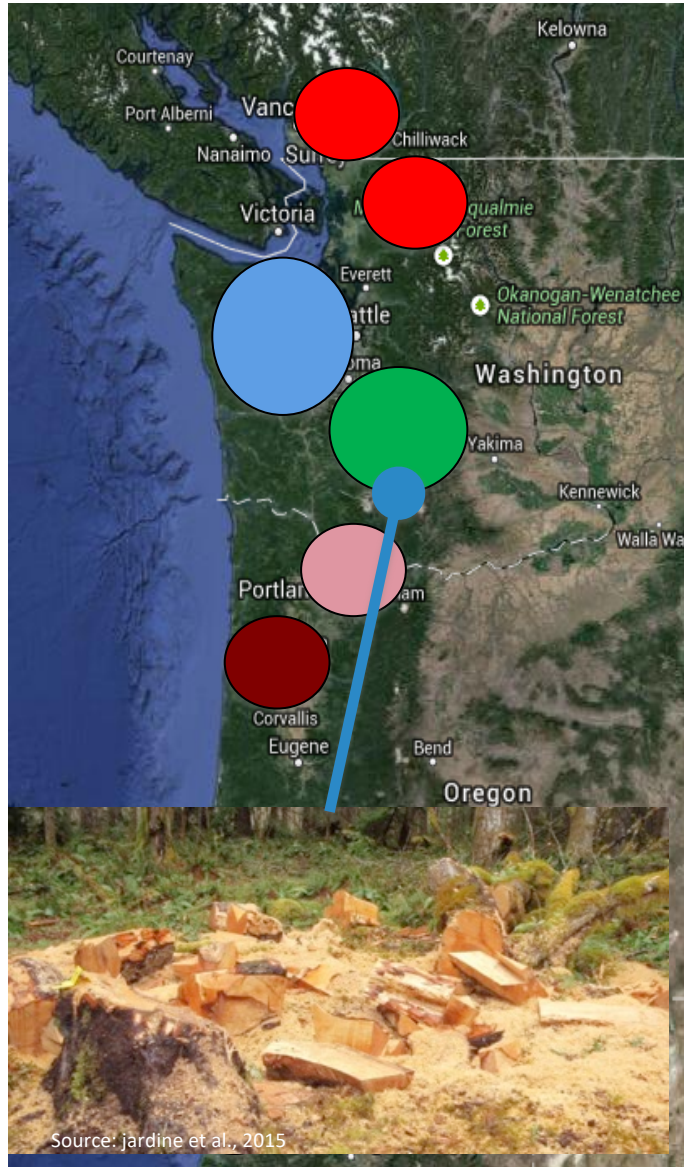
Source: Dormontt et al (2015) *Biological Conservation*. Lowe et al (2016) *BioScience*





The Economist, 22<sup>nd</sup> September 2012





DNA fingerprinting developed

- 430 individuals from 40 populations
- 135 variable SNPs screened
- Significant genetic structure
- Individualisation probability  $1 \times 10^{23}$



“... the government notes that it has produced over 3,500 pages of discovery, which includes expert reports on plant DNA analysis and an extensive timber valuation analyses. The government expects to call approximately 20 witnesses at trial.”

DNA evidence a big part of the case and potentially influential enough for J&L Tonewoods to plead guilty

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Local News | Northwest

## Mill owner admits to buying maples illegally cut in national forest

Originally published November 17, 2015 at 9:09 am | Updated November 17, 2015 at 9:17 am

The U.S. Attorney's office says Harold Clause Kupers and his Winlock company, J&L Tonewoods, admitted to buying the highly prized wood without requiring sellers to show they had a special permit.



U.S. Attorneys » Western District of Washington » News

Department of Justice

U.S. Attorney's Office

Western District of Washington

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FOR IMMEDIATE RELEASE

Tuesday, April 19, 2016

## Mill Owner Sentenced to Prison for Purchases and Sales of Stolen Figured Maple from National Forest

Made more than \$800,000 Buying and Selling “Music Wood”

A Winlock, Washington wood buyer was sentenced today in U.S. District Court in Tacoma to six months in prison, six months of home detention and three years of supervised release and \$159,692 in restitution for violating the Lacey Act by trafficking in big leaf maple illegally cut on national forest land,





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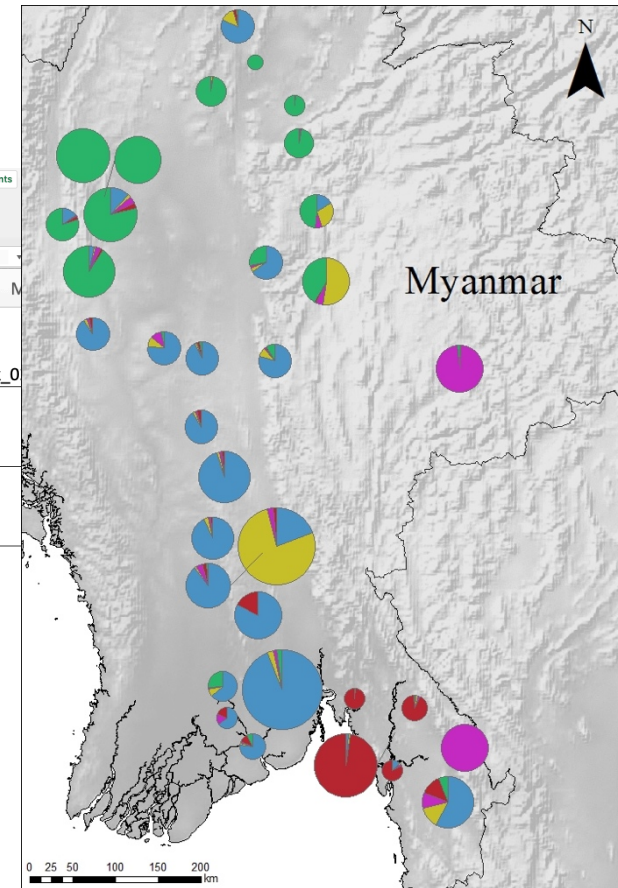
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1	46	9	1	1	1	1	1	1	1	1	1	1	1
2	Teak												
3		Teak_001	Teak_004	Teak_005	Teak_010	Teak_015	Teak_016	Teak_018	Teak_019	Teak_020	Teak_021	Teak_023	Teak_024
4	Sawn timber	GA	TT	AA	CC	AA	CT	GG	CG	CC	AA	CC	CG
5	Log	GA	TT	AA	CC	AA	CT	GG	CG	CC	AA	CC	CG
6	Stump	GA	TT	AA	CC	AA	CT	GG	CG	CC	AA	CC	CG
7	Sawn timber	AA	TT	GG	GC	AA	TT	GG	GG	CC	TA	CC	CC
8	Log	AA	TT	GG	GC	AA	TT	GG	GG	CC	TA	CC	CC
9	Stump	AA	TT	GG	GC	AA	TT	GG	GG	CC	TA	CC	CC







## Traceability docket

### TRACEABILITY DOCKET

**Docket number** DX1228 - TD 001  
**Issue date** 15 June 2016

**Shipment Information**

Committer no. / Shipment no.	Shipment 178
E/L number (if applicable)	N/A
Total product volume (CBM)	31,7600
Verified product volume (CBM)	31,7600
Product type(s)	SD118 846 R0, pine, SD118 (Vengayam, pine, SD182 Pine R0-1010, spruce, SD118 846 R0 RAL1010, spruce, SD182 846 R0 RAL2010, spruce

**Manufacturer bundle ref. nos.** 118001, 118002, 118003, 118004, 118005, 118006, 118007, 118008, 118009, 118010, 118011, 118012, 118013, 118014, 118015

**Verified product bundle ref. nos.** 0000001, 0000002, 0000003, 0000004, 0000005, 0000006, 0000007, 0000008, 0000009, 0000010

**Supply Chain Information**

**Species verified:** Pine (Pine spp.)  
**Origin of harvest:** Pinland  
**Manufacturer:** Sumner Lumber Co., Pinland  
**Buyer:** Timberlink Pte Ltd, Singapore

**Verification Statement:**  
The contents of the bundles listed above have been subject to independent verification using the Nature's Barcode™ system, to confirm the stated species and traceability back to origin of harvest.  
Nature's Barcode™ provides assurance of product quality, consistency, and traceability. The product supply chain is monitored and controlled through a combination of document collection, on-site assessments and scientific testing applied using Molecular Probes Control.  
Full documentation is available on request by authorisation to support this statement for every shipment with a Nature's Barcode™ docket.

**Send inquiries to:** info@doublehelixtracking.com  
**License provided by:** DOUBLE HELIX TRACKING TECHNOLOGIES PTE LTD

## Bundle label

### VERIFIED TIMBER PRODUCT

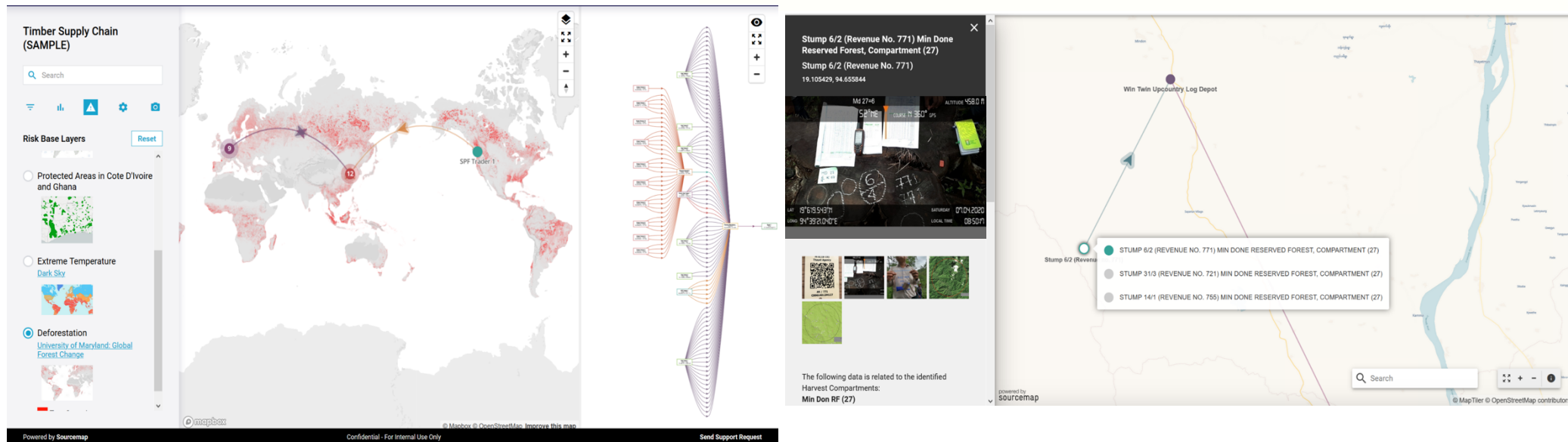
**Nature's Barcode**

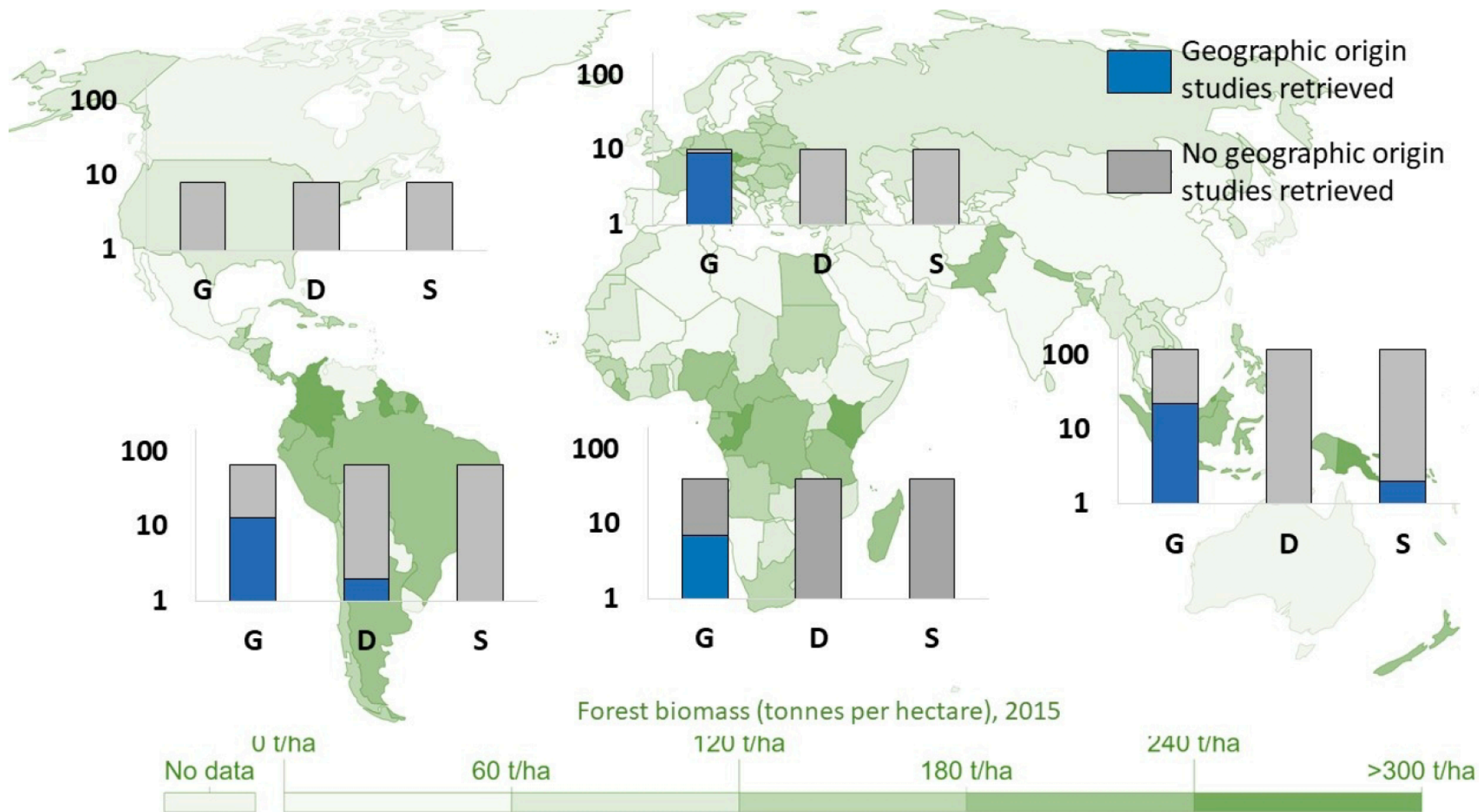
This product is subject to independent verification to confirm species and traceability back to origin of harvest. Claims were verified using the Nature's Barcode™ system.  
Nature's Barcode™ provides assurance of product quality, consistency and traceability.

**Species verified:** Teak (Tectona grandis)  
**Origin of harvest:** Indonesia  
**Manufacturer:** PT. Hutan, Indonesia

**Verification Code:** 00000000

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