



agroisolab
UNITED KINGDOM

Authenticating the origin of timber using **stable isotopes**

**NEPCon Sourcing Legal Timber 2.0. March
15th 2018**

In partnership with Agroisolab GmbH,
accredited testing laboratory in accordance
with DIN EN ISO/IEC 17025:2005



What is stable isotope analysis?

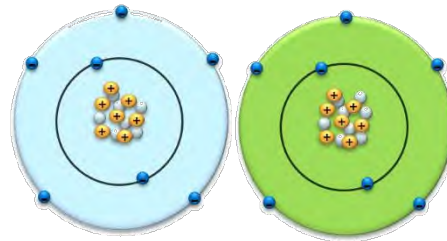
Stable isotope analysis is a tool you can use to verify the geographic origin of once-living products.

Isotopes: variation of elements

- Same number of **protons**
- Different number of **neutrons**
- All elements have one or more isotopic forms
- Elemental isotopes have identical chemistry

Stable isotopes are:

- Naturally occurring
- Non-radioactive
- Chemically identical
- Differ only in mass



Stable




Stable



Regions in the Amur region with consistent $^{18}\text{O}/^{16}\text{O}$, D/H, $^{13}\text{C}/^{12}\text{C}$ and $^{34}\text{S}/^{32}\text{S}$ isotope ratios to an analysed sample (**BLUE**).

Developing stable isotopes in timber since 2007

EU Division 47 - Environment and Climate Change



Genetic and isotopic fingerprinting methods – practical tools to verify the declared origin of wood

Documentation of the international conference
Eschborn, 3-4 November 2010

giz International Forest Policy

Federal Ministry for Economic Cooperation and Development

WWF for a living planet

WWF PROJECT REPORT **D** **2011**

This project is the result of the cooperation with: **DBU** Deutsche Bundesstiftung Umwelt

Final project report

Fighting illegal logging through the introduction of a combination of the isotope method for identifying the origins of timber and DNA analysis for differentiation of tree species

Project number: AZ 26452/31
Supported by the Deutsche Bundesstiftung Umwelt [German Federal Foundation for the Environment]


TÜVRheinland® **agroisolab**
Genau. Richtig.

UH Universität Hamburg

GTTN Newsletter

A newsletter from the Global Timber Tracking Network to promote tools for verifying timber species and geographic origin to reduce illegal logging and associated trade

Issue 3
August 2015



GTTN
GLOBAL TIMBER TRACKING NETWORK

www.globaltimbertrackingnetwork.org

WWF REPORT **D** **2015**

**ITTO-Project PD 620/11 M; Rev. 1
Blind Test Evaluation Report
WWF Germany**

Blind Test Evaluation - WWF Germany

2007



2018

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EUTR advises the use of laboratory analysis

The higher the risk of corruption in a specific case, the more it is necessary to get additional evidence to mitigate the risk of illegal timber entering the EU market. Examples of such additional evidence may include third-party-verified schemes (see section 6 of this guidance document), independent or self-conducted audits, or timber tracking technologies (e.g. with genetic markers or stable isotopes).

*EUTR - Article 2 and Article 6 - Due diligence systems
GUIDANCE DOCUMENT FOR THE EU TIMBER REGULATION - Brussels, 12.2.2016 C(2016) 755 final. Page 7.*

Good due-diligence processes are central to EUTR:

- *Know* the true origin of your timber
- *Know* the true species of your timber



Use confirmation methods, such as laboratory analysis and audits, to back up what your paperwork says.

Good due-care practices are central to Lacey compliance too:

- *Know* the true origin of your timber
- *Know* the true species of your timber
- Third-party certification (e.g. FSC, PEFC) are only PART of Lacey compliance as they *help* demonstrate due-care

Use confirmation methods, such as laboratory analysis and audits, to back up what your paperwork says.

Do your suppliers care as much about your brand's reputation as you do?



A CAUTIONARY TALE...

- Publicly accused of a non-compliance to do with **traceability** and **due-diligence**
- High-profile customers stopped buying from the company
- Russell Hume recently entered administration


Article source: <http://bit.ly/2ESFsG6>

Home > Finance > Restructures & Receiverships >

Russell Hume goes into administration

19 Feb 2018 | Kevin White

Print | Email | Comment | Save



Russell Hume has been under investigation by the FSA over use-by labelling

Scandal-hit meat processor Russell Hume has collapsed into administration, with more than 300 jobs set to be lost.







KPMG announced it had been appointed as administrators of the supplier today. Headquartered in Derby, the company employed a total of 302 people at six production sites in Liverpool, Birmingham, London, Boroughbridge, Exeter and Fife.

In a statement, Russell Hume's directors said enforcement action undertaken by the FSA against the business had "created impossible trading conditions for us, and after careful reflection we have decided the best thing for the company and its creditors is to put Russell Hume into administration".

They added: "This decision has been heartbreaking. We will

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-  Russell Hume intelligence behind 'burst' of action on meat
12 Feb 2018
-  Russell Hume site in Liverpool allowed to resume production
05 Feb 2018
-  The Russell Hume scandal has shown how




News > Business > Business News

Designer furniture retailer Lombok becomes first UK company to be fined under illegal logging laws

Authorities twice warned upmarket furniture firm after it failed to carry out required due diligence

Ben Chapman | [@b_c_chapman](#) | Wednesday 1 November 2017 18:14 GMT | [15 comments](#)

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A timber worker marks logs in preparation for legal export

Article source:
<https://ind.pn/2A70R9w>

Designer furniture retailer Lombok has become the first UK

BUSINESS

Lumber Liquidators pleads guilty to environmental crimes, agrees to pay more than \$13M

Everett Rosenfeld | @Ev_Rosenfeld
 Thursday, 22 Oct 2015 | 1:48 PM ET



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Lumber Liquidators pleaded guilty on Thursday in federal court to environmental crimes related to illegal importation of hardwood flooring, the Department of Justice announced.

The settlement is unrelated to the controversy over some of its laminate flooring from China, which CBS' "60 Minutes" has reported contains high levels of the carcinogen formaldehyde.

In total, Lumber Liquidators agreed to pay \$13.13 million — including a

MOST POPULAR



1. 6 state governors oppose Syrian refugee relocation



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Article source:

<http://cnb.cx/2pbfqUP>

By our powers combined...



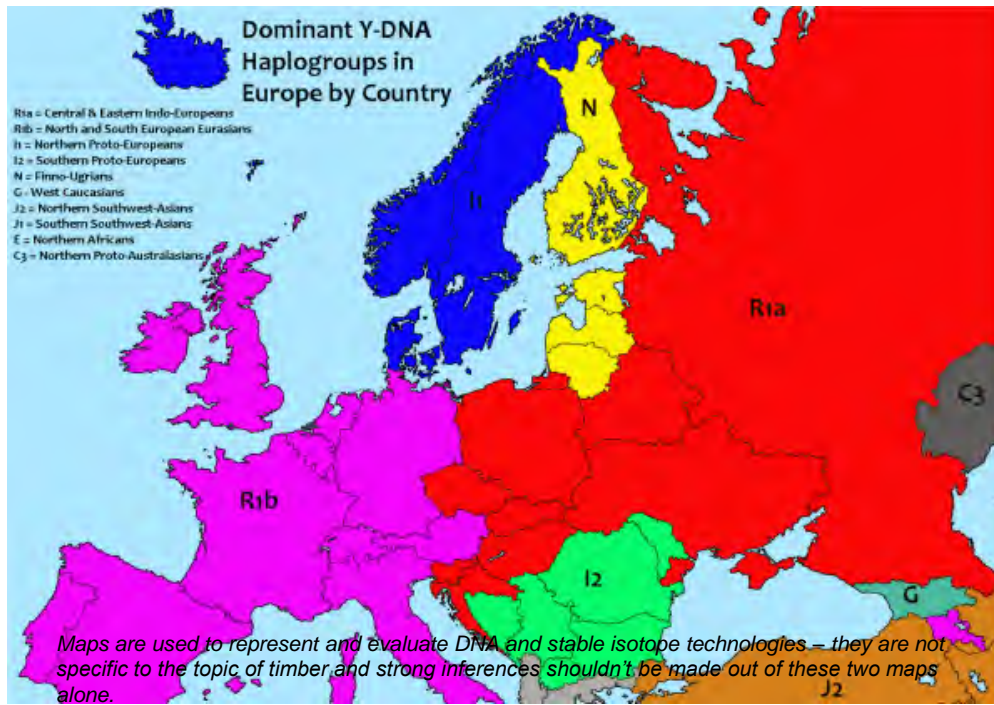
There are lots of timber tracking technologies worth adding to your QA/due-care processes:

- **Stable isotopes** (origin)
- **DNA** (origin & species)
- **Chemical profiling** (origin and species)
- **NIR** (origin & species)
- **Wood anatomy** (species)

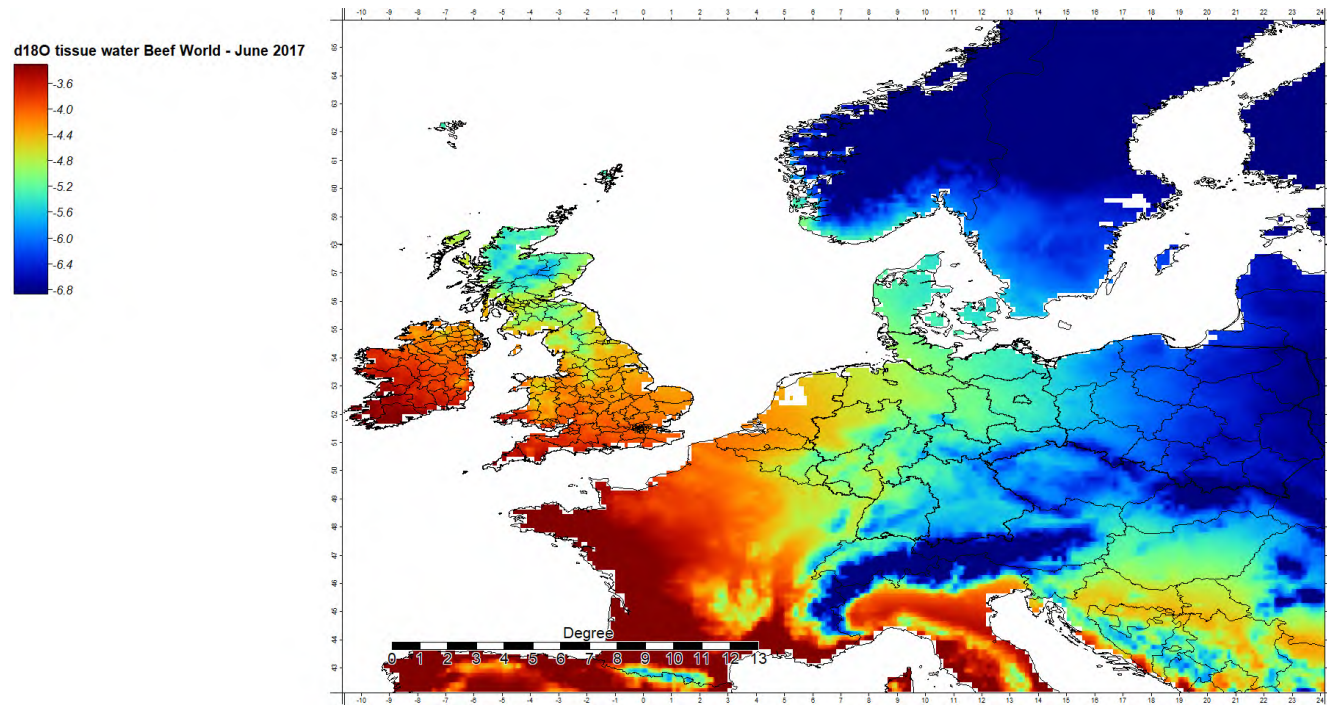
There are multiple origin tracking tools: DNA & Stable Isotopes



- Investigates genetic lineage of a tree/once-living object (population genetics)
- Associated with geographical origin
- Differentiation by DNA markers



- Investigates the origin of the elements in the timber
- Directly related to geographical origin
- Differentiation by isotope values



What kinds of products can we work with?



Solid wood

- Minimum recommended weight is: 100g or 0.22lbs
- Roughly matchbox size

Plywood & Engineered flooring

- Need to obtain ~10 to 20g of sample per layer
- Minimum dimensions: 25x25cm (625cm²) or 10x10 inches (100"²)
- Min. thickness: ¼ mm

Furniture, musical instruments

- Need to obtain ~ 10 to 20g of sample
- Separate pieces treated as separate samples

Sample information needed before analysis can start

Mandatory

- Declared species
- Sample reference number
- Declared origin
 - **Continent** = weak
 - **Country** = better
 - **Region** = best possible

Recommended/useful

- Product identifier codes
 - SKU
 - Barcode
 - Batch
 - Date and location obtained
- Supplier codes/registration numbers

Existing stable isotope databases for timber

Mahogany (Inc. African Mahogany)

- Congo
- Costa Rica
- Democratic republic of the Congo
- Ecuador
- Ghana
- Honduras
- India
- Java
- Panama
- Peru

Teak (*Tectona grandis*)

- Brazil
- Costa Rica
- Ghana
- Honduras
- India
- Indonesia
- Java
- Laos
- Myanmar (Burma)
- Panama
- Papua New Guinea
- Vietnam

Spruce

- Austria
- Belarus
- Finland
- Germany
- Norway
- Poland
- Russia
- Sweden

Sapelli

- Cameroon
- Congo
- Democratic Republic of the Congo

Iroko

- Cameroon
- Congo
- Democratic Republic of the Congo
- Gabon
- Ghana
- Ivory Coast
- Kenya

Birch

- Lithuania (new)
- Amur region (China/Russia)
- UK

Beech

- Germany (new)
- UK (new)
- Ukraine (new)

Oak

- Amur region (China/Russia)
- USA (new - updated)
- Europe
- UK (new)

Ash

- Amur region (China/Russia)
- UK

Palaquium

- Solomon Islands

Calophyllum (Bintangor)

- Solomon Islands
- Taiwan

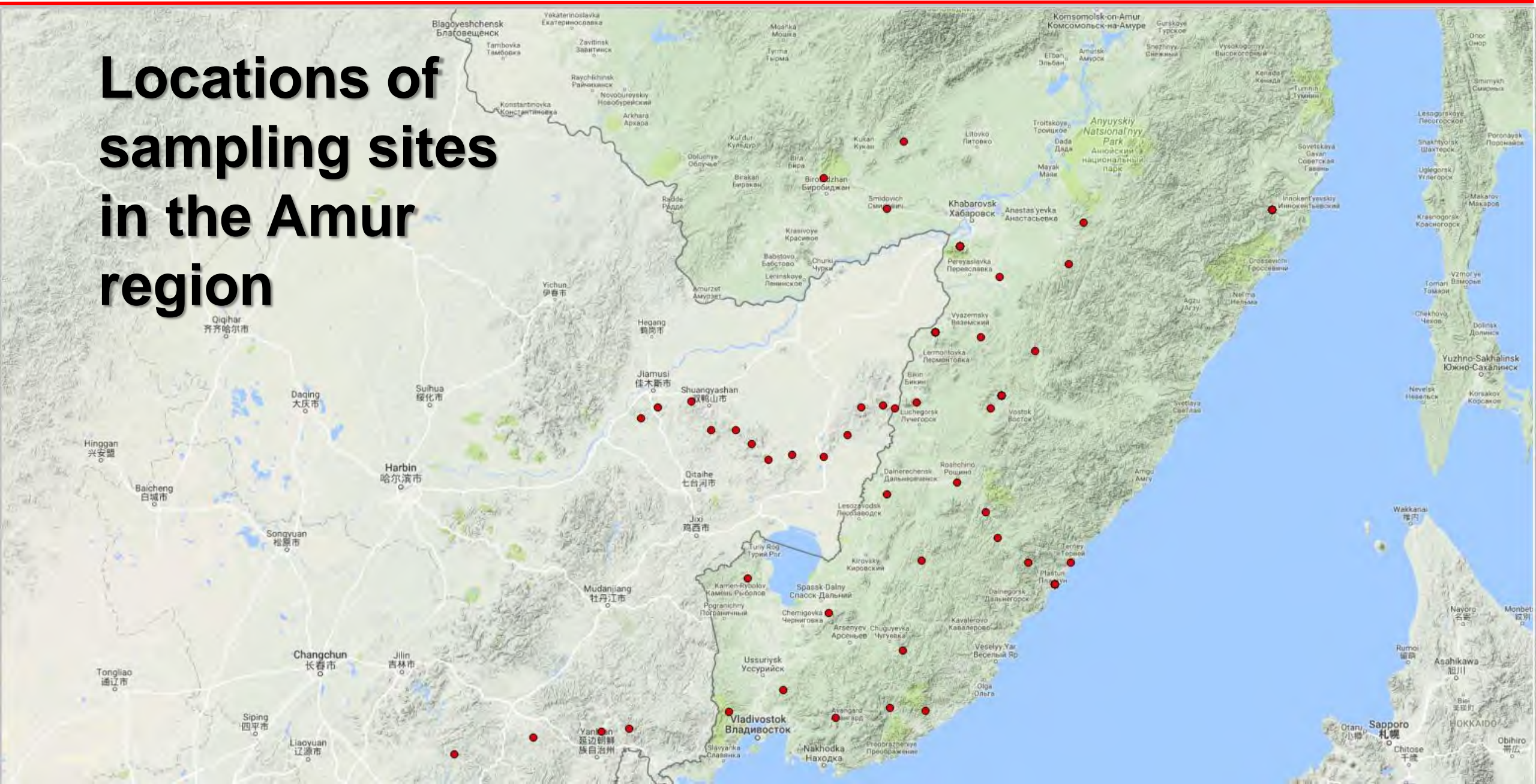
Rosewood (*Dalbergia*)

- Madagascar (new)

Note: Stable isotope analysis is genus/family-specific. Please check the lab has data before sending samples.

Sampling is hard work – WWF/Agroisolab Amur project 2011-2012

Locations of sampling sites in the Amur region



The next steps for agroisolab



Forecast carbon stable isotope ratios ($^{13}C/^{12}C$ or $d^{13}C$) of teak (*Tectona Spp*) within Central and South America

- Databases are the biggest challenge
- This year – library of physical samples from Latin America (5 species)
- Store samples at Kew
- Samples will be available to researchers

Keep updated!

Timber Risk in Focus

- » Large companies found to continue trading with illegal supplier
- » Nigerian rosewood entering China with retroactive permits
- » Poland faces €100,000-a-day fine over illegal logging in ancient forest
- » Romania timber stolen from national parks could enter supply chain
- » UK company fined under illegal logging laws
- » Madagascar petitions to allow sale of dubious rosewood held for export

Nigerian rosewood entering China with retroactive permits

Illegal rosewood from Nigeria may have been exported to China, following revelations that the UN's Deputy-Secretary General may have signed thousands of permits retroactively, enabling the timber to pass through into China from being stopped due to lack of paperwork.

A two-year investigation by the Environmental Investigation Agency found that the timber stopped at Chinese ports numbered around 1.4 million logs, and the monetary worth of the cargo was estimated to be around \$300 million. The paperwork, allegedly signed off by Amina Mohammed, who then held the position of environmental minister of Nigeria, was created while the timber was held at the ports and did not accompany the timber when it was loaded and shipped. According to the report, Nigerian authorities received more than \$1 million in bribes from Chinese importers of rosewood. Mohammed denies the claims, stating that the paperwork was signed fraudulently.

Rosewood was classified by CITES as an endangered species in May of 2016, but there is an increasing demand for the timber from China, where it is carved into luxury furniture.

Agroisolab recommends that rosewood products are tested for origin and traceability is ensured through documentation.

<https://bloom.bg/2zs3mBk>
Bloomberg article

TOP STORY

Large companies found to continue trading with illegal supplier

13 companies have been accused of trading timber from a Brazilian logging firm, the owner of which is accused of murdering 9 smallholders to gain access to the forest where the victims lived.



Despite the assassinations taking place in April, the company, Madeireira Cedroana, continues to sell timber to firms that then shipped the products to countries including Germany and the US. The owner, Valdeir João de Souza, fled and has been on the run since May.

Due to the circumstances, it is suspected that much of the timber may be illegal. Even before the massacre, the company had unpaid fines for trading illegal timber, and the Amazon appears to have a severe problem with fraud and trafficking of illegal timber.

Agroisolab are experts in verifying the origin of Tropical hardwoods using stable isotope analysis. We currently capable of verifying the origin Mahogany from Brazil as well as other locations around the globe. We also recommend developing further tools to combat illegal logging in South America.

<http://bit.ly/2A2pSVt>
Guardian article

Romania timber stolen from national parks could enter supply chain

Timber from Romania has been illegally logged from a national park, and may have been laundered into the supply chain.



The Semenic-Cheile Carasului National Park, which borders Serbia, was found to be missing around 50 hectares of forest on top of a mountain. The government is seen as being weak on the subject of illegal logging, failing to plan a limit to logging in the park.

Romania is currently struggling with illegal logging: around 26 cases a day were reported in 2016, a large amount by active members of public, costing the state £7.8 million. The Timisoara Forest Guard has already seized around £190,000 of illegal timber this year.

Agroisolab recommends testing any timber that is suspected of being from Romania.

<http://bbc.in/2bNvEV>
BBC article

Madagascar petitions to allow sale of dubious rosewood held for export

Illegal rosewood from Madagascar could enter the supply chain after Madagascar petitions CITES for the selling of seized stockpiles.

The logged timber, worth millions of dollars, has been held since a 2010 export ban was placed on Madagascar. Much of the wood is thought to be illegal and felled from national parks. Undercover filming found unguarded logs in a government compound in close range of the beach – an easy target for traffickers who use the government stockpiles to launder logs.

There are fears that allowing the sale of the logs will ignite more plunder of the rainforest, and as logs are moved out to be sold, more will be moved in to fill the empty spaces and continue the illegal movement.

Agroisolab recommends that rosewood products are tested for origin and traceability is ensured through documentation.

<http://bit.ly/2AbhAa>
Mongabay article

UK company fined under illegal logging laws

The UK company Lobok has been the first company to be fined under illegal logging laws.

Lobok, based in London, has been accused of failing to ensure supply chain traceability for its timber, and was handed a £5000 fine by Westminster Magistrates court. The company had apparently received 'numerous warnings' over its lack of diligence concerning illegally-logged timber used in its products, which culminated in the fine.

In the UK, major luxury furniture retailers are seen as not doing enough to ensure that their products come from legal sources. With UK imports of timber from high-risk countries (such as Vietnam and China) at 60%, and the rise in deforestation around the globe, the focus is starting to switch towards large companies.

Agroisolab recommends that timber products are tested for origin and supply chain traceability is ensured through documentation.

<http://bit.ly/2zK0071>
edie.net article

Poland faces €100,000-a-day fine over illegal logging in ancient forest

Illegal Polish timber may enter the UK market from Europe's oldest forest, Bialowieza in Poland, as the country ignores calls to stop logging.



Poland has been given an ultimatum by the European court of justice of stopping the illegal logging in the forest within two weeks of the ruling, or pay a €100,000-a-day fine. Polish officials insist that all logging is done lawfully, despite Greenpeace activists reportedly having photographic evidence of violations related to the logging.

Agroisolab offers services of wood origin analysis and recommends testing any timber that is suspected of being from Poland.

<http://bit.ly/2AYYk0D>
Guardian article

Sign-up at:
www.agroisolab.com/timber



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