GREENS & BLUES

BUILDING SUSTAINBLE GUITARS

by Franxuante

THIS BLOGPOST IS DEDICATED TO THE GUITAR LEGEND

EDDIE VAN HALEN, WHO PASSED AWAY 2 YEARS AGO.

Introduction

Had you ever heard of the song Greens and Blues by Pixies, you might recognize half of the title. The '90s permanent wave and alternative rock classic played an indispensable role in cultivating me to a rock fan as well as a guitar aficionado. For many people, the modern art of guitar is embedded in the figure of Jimi Hendrix, who plays his iconic wildBLUES on a 1964 Fender Strat with a ROSEWOOD neck. Yet the art of guitar, as well as its material, evolved over the past decades and became more and more GREEN in recent years. My blogpost is going to shed a light on the measures, policies, andlaws on sustainable guitar production. Given the complexity of guitar composition, including its head, neck, body, bridge, etc., made from different materials, this article will only focus on the main material — tone woods — which serves for bodies and necks (head and neck are usually carved as a whole, and some guitars like Strandberg are headless.).

Jimi Hendrix

Rosewood / Maple Neck

https://www.amazon.com/Guitar-Neck-Canada-Maple-Fret/dp/B08BBKVN1W

As mentioned previously, the neck of the 1964 Fender Strat was made of rosewood, so were those of many other vintage guitars. Martin Taylor were the first one to use rosewood for acoustic guitars and follows Gibson, which consumed ¾ of the rosewood in the guitar industry (Black, 2013).A lot of guitarists are obsessed with the vintage rosewood fingerboards (some necksare combinations of rosewood fingerboards and maple bottoms.) for its stability, tone, and the smooth feel on the surface for shredding (generally refers to fast, virtuoso playing). However, their obsession might have to end. From 2005 to 2015, it is estimated that in total 9874 tons of rosewood had been illegally traded. Excessive rosewood logging has a lot of negative environmental impacts, including reduction in biodiversity, increase in likelihood of forest fires, and degrading soil fertility (Barrett et al., 2010). To prevent the extinction of rosewoods and reduce the negative impact of logging, CITES (Convention on International Trade in Endangered Species) decided to ban rosewood trading on 2nd January, 2017. Asa result, musicians were not allowed to travel with rosewood guitars when crossing borders on tour, let alone trading instruments made of rosewood.

Although the ban on rosewood instruments is moving to sustainability, it's hard to intuitively consider it fair to ban an instrument made of rosewood less 10 kilograms. The main contributor of rosewood being endangered is the furniture industry that has a great market in China. According to Annah Lake Zhu, the Chinese furniture market, with an estimated value of 26 billions of USD, depletes the most rosewood resources for making antique furniture following a cultural renaissance. Hence, as the majority expected, the ban on rosewood-made instruments was lifted in August, 2019. The new policy excluded all the other species except for the Brazilian rosewood (Dalbergia nigra) for musicians. In light of this measure, the APHIS (Animal and Plant Health Inspection Service) of the U.S. Department of Agriculture, being in charge of species protected under either the U.S. Endangered Species Act (rosewoods are not under its protection, since they're exotic) or CITES, regulates the entry of instruments made of Brazilian rosewoods. The APHIS's regulation on rosewoodis based on the Lacey Act, which combats unlawful trafficking of wild faunas and floras. To trade rosewood-made instruments, an individual has to apply for a valid Protected Plant Permit by the U.S. Department of Agriculture, according to part 335, Code of Federal Regulations. In spite of the regulations, some companies are still involved in illegal wood trading. In 2011, Gibson were sued to trade Brazilian rosewood as well as other species like Madagscar ebony and Mahogany.

In addition to the American regulations, it is also worth paying attention to their counterparts in Europe and Asia, where mainstream guitar companies like Höfner (Germany) and Ibanez (from Japan, having a lot of factories in China.) locates. The EU was relatively tolerant to rosewood-made instruments. Right after the ban in 2017, the EU didn't prohibit individuals and households to carry a rosewood-made instrument below 10 kilograms in their luggage. For music ensembles, as long as each member doesn't carry such an instrument over 10 kilograms, they will be permitted to travel with the instruments. Besides, the EU also exempted non-commercial trade of rosewood-made instrument, and non-commercial trade includes personal use, performances, competitions, repairments, and loans. In Asia, Myanmar and peninsular Malaysia, where some rosewood species grows, had banned rosewood logging in 2014. China regulates logging but not trading. The Chinese National Department of Forestry and Grasslands and CITES MA in China only serves to supervise illegal trafficking and logging of national protected species (Zhang & Chen, 2022). So far, companies like Ibanez could still import and export rosewood (guitars) from their Chinese factories.

Pau Ferro

Since the ban on rosewood in 2017, Fender has been switching to Pau Ferro woods for guitar fingerboards. Guitars with Pau Ferro fingerboards are most produced in Fender's Mexican factories, which focuses on building non-custom and non-vintage series. The most common player series, which I play, are made of Pau Ferro woods as well.Personally, I find it a graceful substitution for rosewood, just as Fender alleged, 'snappy attack, creating a crisp, clear sound.' Pau Ferro is not a novelty following the ban on rosewoods in 2017. In the 80s, Stevie Ray Vaughan led the second wave of southern blues over his Pau-Ferro-made signature guitar. Fortunately and unfortunately, Pau Ferro is not listed by CITES, and so far there's no restrictions on Pau Ferro. Yet we might not have to worry about it, since they only serve for the music industry. Unlike rosewood, they are not popular in the furniture industry.

Maple

People often compare maple necks with their rosewoods counterparts. A lot of high-end guitars are also made of maple wood. Some 'maple necks' refer to an entire neck made of maple, while some means the back that holds the fingerboard made of other materials. Maple woods are also a sustainable choice. In addition to its rich sound and endurance, maple woods are famous for its texture. Its smooth feel made it the most adored neck back, where guitarists anchor their palms. A smooth neck back makes it easier for players to flexibly move around the entire neck, especially during improvisations. Ecologically speaking, maple woods are pretty promising as well. Maple woods grows at a staggering rate of 1cubic meter/3.31s. The growth of American hard maple exceeds its harvest, resulting in a net increase of 8.8 M cubic meters per year. The increase of itspopulation can facilitate carbon sequestration. Moreover, as a native species (mainly in New England), American hard maple reduces the carbon footprints from transportation. The figure below demonstrates other sustainable factors of maple woods. However, certain maple species are concerned by the international community. In 2015, the Lacey Act coped with the illegal harvesting of bigleaf maple in Gifford Pinchot Nation Forest. Anyway, maple woods still remain a sustainable choice, since more tropical woods might be endangered in the near future.

SRV

https://ultimateclassicrock.com/stevie-ray-vaughan-dies/

Body

The discussion on body would be modest compare to the previous texts, since we've already reviewed the most controversial rosewood.

Mahogany

Mahogany woods are widely used for guitar bodies. Like many other endangered wood species listed by CITES, Mahogany is one of the tropical woods that are distributed in central America, Bolivia, and Brazil. Since I'venever played a Mahogany-made guitar, the words below are totally taken from comments online: 'Mahogany is better at creating resonance and warm tones.' That might be the major reason why it's adored by a lot of players for acoustic track recording. Mahogany was listed by CITES pretty early. Mexican Mahogany was listed in 1975, Cuban and Honduran ones being listed in 1992 and 1995. In November 2003, the international community agreed on regulations for bigleaf Mahogany businesses. Following this measure, ESA (Endangered Species Act, in the U.S.) barred Mahogany from trading and possessions. Unfortunately, Gibson company still possesses illegal Mahogany woods.

John Frusciante holding a Martin O15 made of Mahogany while recording Road Trippin'

https://www.groundguitar.com/john-frusciante-gear/john-frusciantes-1940s-martin-0-15/

Ash & Alder

Ash and Alder are common materials for electric guitar bodies. Ash is considered to be good at taking finish (the colored layer on the body). The swamp Ash, distributed in southern U.S., has good resonance for its softness and porosity. Compared to Ash, Alder is not that excellent but cheaper and more accessible. Its habitats range from Tropic of Cancer to polar areas. Currently, only Ash (Fraxinus Mandshurica, a specie from Russia) is listed by CITES and subsequently banned by the EU. Although the American market is not affected by this measure, Fender has recently been replacing Ash — the DNA of its sound — to Alder. In 2019, Fender received the worst swamp Ash harvesting due to the flood in the Mississippi River. Erratic precipitations due to climate change is a major threat to swamp Ash woods.

Alder

Ash

https://www.thegearpage.net/board/index.php?threads/poll-telecaster-body-wood-alder-ash-or-it-doesnt- matter.2203113/page-2

Discussion and Conclusion

The current regulations on tonewoods are far from sufficient. For example, for the threat of climate change, we might need to regulate the exploitation of swamp Ash. Meanwhile, stricter market regulations and penalties should be imposed to address illegal transactions, as seen in the case of Gibson. Interestingly, Gibson is currently facing bankruptcy, which raises questions about its ability to meet tax obligations and fines. As part of the solution, we could consider imposing VAT taxes on guitars made from illegally sourced woods. Moreover, why not explore subsidy-based solutions? Take Gibson, for example: the company has struggled with deficits while trying to preserve its traditional identity. This commitment to legacy has garnered more criticism than praise from modern players. One of Gibson's key challenges has been its lack of innovation over the years. A lot of players complain about the inaccessibility of the higher frets frustrating, and many are indifferent to the 'vintage tones' from the tonewoods, given the accessibility of more and more advanced audio techs. Subsidies could help Gibson break free from this cycle, fostering innovation and eventually phasing out illegally sourced woods. This approach could also benefit other companies in similar situations, especially as the guitar market has become increasingly monopolized. For instance, did you know that Jackson and Charvel, once independent, are now owned by Fender to cater to metal players? In this context, it's only reasonable to hold larger corporations accountable for sustainable practices. Additionally, subsidies could be extended to civil groups. In 2016, Tom Bedell launched the "Musicians for Forests" campaign to protect Alaska's over-logged Sitka Spruce. Initiatives like this, driven by passionate individuals, deserve funding and support.

Guitar builders could also consider more unconventional species. For example, bamboo is among the most fast-growing wood in the world, and it's highly managable. Used for flutes and Xiao (a Chinese instrument, a vertical flute), bamboo has a rich tone and can last long, too. More importantly, experienced players would argue that the tone is dictated by the finish but not the wood, while modern players are less dependent on tonewoods. Instead, they expand tone ranges via digital pedals and advanced audio programming. In the end, as a geek who grinds for guitar every day, I'd love to reveal a truth to you: the key of your tone is not your wood, your pedals, your amp, or the software you install. It's your hands. So, choose sustainable materials, keep shredding, play blues and more GREENS. I'll see you on stage in a more sustainable future.

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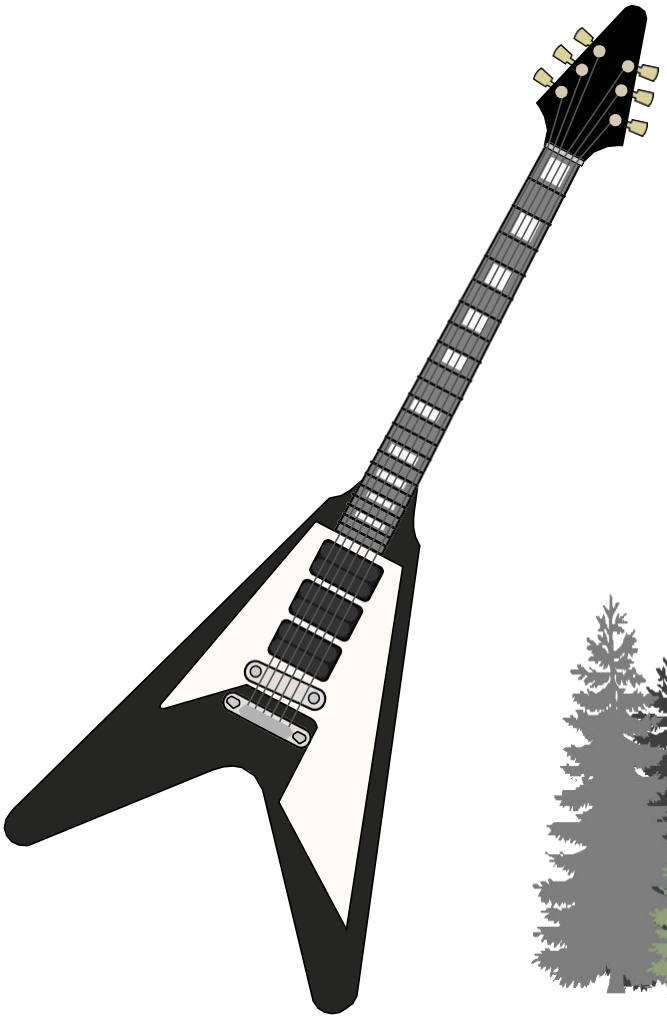

THANKS