Natural Selection

When picking wood, choose wisely

Mahogany. The word itself conjures a sense of depth, comfort...luxury. Its rich, red timber resonates with us. We widen our eyes at its amazing, wavy luster and adore its classic style. For generations, mahogany has signified wealth and warmth. We appreciate it so much, some of us even name our children after it.

Mahogany was first used around 1500 by Europeans following the Spanish exploration and colonization of the New World. It became prized by furniture makers for its dark, reddish color and for its stability—not too hard to carve, it could be scrolled to the finest detail without breaking. This quality enabled an elite style of early European furniture. Mahogany became a standard of design.

But the history of mahogany is also the history of colonialism, forest destruction and even murder, as the demand for this wood drove loggers deeper and deeper into pristine jungles, putting them in conflict with the forest ecosystems and with their original human inhabitants. West Indian (Caribbean) mahogany, *Swietenia mahogani*, was the first to be exploited; sometimes called "true" mahogany, it is still considered to be the best of the three New World mahoganies. By the late 1800s, large trees were hard to come by and demand had shifted to Pacific Coast mahogany, *S. humilis*, which would, in turn, become rare in trade due to over-logging. Since the 1950s, the major species in trade has been big-leaf mahogany, *S. macrophylla*. The tree ranges from mid-Central America into South America and is found extensively in Brazil, Bolivia and Peru, where it is currently being over-harvested.

Since the 1980s, environmental organizations have reported violent conflicts with loggers and indigenous forest peoples. By 1995, at least 10 indigenous tribes living in the rainforests of Brazil had had members killed by illegal loggers. Today, the largest mahogany exporter is Peru. Estimates are that 80 percent of logging in Peru is done illegally, and indigenous people—some of whom desire to remain isolated—are again in conflict with loggers.

OTHER SPECIES

But mahogany isn't the only tropical species in high demand. Exports from Brazil of ipê, a species that was relatively unknown in the United States until recently, have now topped those of mahogany. With a natural range similar to mahogany, ipê, often called Brazilian walnut in the United States, is used for decking, flooring, benches and even sinks and bathtubs. Eighty percent of ipê logging is illegal, resulting in the massive destruction of ancient forests. And there's no such thing as an ipê "plantation." Ipê trees are being cut from old-growth forests, which are from 250 to 1,000 years old. The Amazon rainforests in which they grow have existed in their current state for *millions* of years.

In Asia, exploitation of teak was closely tied to the British colonization of India and Burma and the Dutch colonization of Indonesia. Revered for its incredible durability, teak was used by these colonizers largely to build their naval ships. The demand for teak has contributed to the death of thousands, as well as to the demise of the majority of the forests of India, Thailand and Burma. Today, teak is also used for indoor and outdoor furniture, flooring, decking and construction.

Logging for wood is the single greatest factor leading to the destruction of the world's forests.

CAUSE AND EFFECT

Globally, the exploitation of timber has been a major driving force behind colonialism, genocide, murder and the overthrow of at least one government. The trade in illegal wood is the second largest illicit trade in the world, outstripped only by the trade in drugs.

Logging for wood is the single greatest factor leading to the destruction of the world's forests. According to the United Nations Food and Agriculture Organization (UNFAO), the world loses an estimated 13.5 million hectares of forest each year. Of that, 12.6 million hectares are tropical forest. But UNFAO considers "deforestation" to be the clearing of at least 90 percent of tree cover. During typical rainforest logging, up to 50 percent of the surrounding forest is directly damaged through road building, skidder trails and from peripheral damage from bulldozers. This large-scale forest degradation isn't considered "deforestation" by UNFAO and may not show up on satellite images. Recent studies have shown that UNFAO numbers for tropical forest loss should be doubled to consider damage from logging.

Additionally, during the 1990s, an average of 3 million hectares of new plantations were planted globally each year, and UNFAO counts these as offsetting natural forest loss. But plantations are not forests. They cannot support the biodiversity found in old-growth forests in general, much less the incredible diversity of tropical rainforests. According to the World Resources Institute (WRI), if new plantations

Continued on page 34

Continued from page 32

WHAT ABOUT CERTIFIED WOOD?

The Forest Stewardship Council (FSC) accredits organizations which certify that logging is well-managed according to FSC guidelines. However, some environmentalists claim that 60 percent of FSC-certified wood comes from old-growth forests. Certainly, a great deal of FSC wood from tropical forests is from old-growth and primary forest logging. Old-growth rainforests suffer significant damage even under so-called low-impact logging. For this reason, tropical wood should be avoided entirely unless it can be proven to have come from carefully managed logging in second-growth or planted forests.

The Rainforest Action Network announced in October that it is considering ending its membership in the Forest Stewardship Council General Assembly because of concerns about continued certification of logging in primary (previously unlogged) and old-growth forests. They have asked for data about the percentage of FSC material sourced from ancient forests.

Also, Friends of Earth International, a founding member of the FSC, decided in September to suspend its support of FSC-certified wood and review its membership in the organization because of concern "that some FSC certificates are failing to guarantee rigorous environmental and social standards. As a result, the mark's credibility is being undermined."

are excluded from consideration, it appears that natural forests in the tropics are being lost at the rate of nearly 16 million hectares a year. "The extent of tropical deforestation appears to be higher [than FAO estimates] in all tropical regions except Latin America," said Emily Matthews, of WRI.

For instance, the Philippines, originally the primary source of lauan plywood, has about 4 percent of its forests remaining, yet, according to Philippine Senator Loren Legarda, "Unchecked illegal logging remains the main culprit" in continued forest destruction. As Dr. Michael A. Bengwayan wrote in an article titled, "Philippine forest surface to be gone by 2025," which appeared in *The Brunei Times,* "Government negligence has prompted the devastation of forests. Today, much of the remaining forests are still being invaded by commercial loggers."

The first wave of loggers invading primary tropical forests—half of whom are logging illegally—are usually seeking high-value woods for export. Without the big payoffs for mahogany, ipê, jatoba (Brazilian cherry), African mahogany, ramin, teak and other pricey woods, these loggers couldn't afford the bulldozers, trucks and skidders necessary to punch new roads into pristine forests.

Once a logging road is in place, the chain of destruction has begun and the forest will likely be totally destroyed. According to UNFAO, 70 percent of deforestation due to shifting cultivation is precipitated by the existence of logging roads. The WRI flipped this figure to show that a logged forest in the tropics is *eight times more likely to be deforested* than one remaining unlogged.

High-value species targeted by legal and illegal loggers for export include: mahogany (South American and African), ipê (Brazilian walnut), jatoba (Brazilian cherry), tigerwood, garapera and virola in the Amazon; African mahogany, wenge, okoumé, ekki, doussie and padauk in Africa; and ramin, apitong, keruing, kempas, kapur, nyatoh and balau in Malaysia and Indonesia. Seventy percent of the mahogany cut in Brazil is exported, as is 90 percent of the okoumé cut in Gabon.

WASTING AWAY

Waste in the system is phenomenal. From one-third of the volume of the tree being left in the woods to the fact that 28 trees on average are killed to get at the target tree, to massive amounts of lower-grade wood going to waste at the mill, efficiency is so lacking that as little as 76 board ft. of clear ipê boards, in lengths longer than 7 ft., may be imported from an entire acre logged.

And then there's plywood (often called lauan or meranti in the United States). It makes up 80 percent of U.S. tropical wood imports and is used for subflooring, interior doors, paneling backing and set construction. In all, the United States is the largest consumer of tropical hardwoods by dollar value and by volume.

The destruction of tropical forests is generating the largest mass extinction our world has seen since an asteroid struck our planet 65 million years ago, wiping out the dinosaurs and 65 percent of all life on Earth. It is estimated that the current mass extinction—perpetrated by a single species, *Homo sapiens*—is occurring at a faster rate than that which followed the asteroid impact. What this mass reduction in biodiversity will mean for us and our world is completely unknown. Ever hear of the "butterfly effect"?

ADDRESSING THE ISSUE

Given this cataclysmic reality, what's a concerned person to do? Must wood be avoided entirely? Actually, no. But there are definitely better alternatives for a number of applications. In order to be sustainable, global demand for wood and wood products must decrease by 90 percent. Primary forests (those remaining unlogged and intact) and old-growth forests (those that are 200 years old or more) must be made off-limits to logging and large-scale commercial activity. Any commercial logging in second-growth forests must be carefully managed.

So how do we achieve the necessary reduction in demand? We can start by avoiding imported tropical hardwoods, more than 99 percent of which are coming from old-growth forests. As well, we need to vastly reduce our use of paper. Avoiding disposable paper products is essential. We also need to quickly shift our paper production by increasing the collection and utilization of recycled paper, with "virgin" fiber coming from agricultural residues such as wheat and rice straw, sugar cane waste fiber, corn stalks, etc. Making paper from trees no longer makes sense.

Here's something else that doesn't make sense: We've created high-density polyethylene (HDPE)—one of the most durable materials ever invented—and we use it for milk jugs, something we want to last (from the farm to the trash can) for about three weeks. We make more than 3 million tons of it each year. And when it comes to piers, pilings,

bulkheads, boardwalks, marinas, docks, outdoor decking, outdoor furniture and fencing—things we want to last forever—we make these things out of *wood*, a material that generally lasts from 10 to 25 years in the outdoors. What's wrong with this picture? Recycled plastic lumber, fencing and furniture can offset logging from five to 20 times over and saves on maintenance, liability and other costs. And it comes in any color you like!

Once the use of wood for paper and outdoor construction is eliminated, there's plenty to go around for furniture and other long-term uses. But we must limit our use to sustainable sources. First, we can seek out wood salvaged and reclaimed from old buildings, tree crops and from clearings for development. There's a lot out there. For instance, estimates are that there are 80 billion (that's *billion*) board ft. of coconut palm wood generated each year in South Pacific coconut plantations alone. A lot more wood is generated in rubber plantations in Southeast Asia. And we can increase deconstruction of buildings to reuse the wood and other materials.

After we've exhausted those options, we can turn to local sustainable woods. Almost all of the old-growth forests in the contiguous United States have been eliminated, leaving second-growth forests, agriculture, housing and other developments behind. The Northeast has the largest area of regrowing natural forests in the world. Many of these forests are now producing wonderful woods from carefully managed logging and there are hundreds of companies marketing materials made from them.

Finally, while not forests, plantations are providing large volumes of wood that can, in some cases, offset the use of woods with even greater ecological impacts. Use of plantation woods such as eucalyptus, radiata pine and gmelina should be considered carefully and on a case-by-case basis, with the history of the plantation taken into account. Many plantations were grown on land that was formerly old-growth forest—cut first for the plantation.

DOING YOUR RESEARCH

For additional information, download Rainforest Relief's Guidelines for Avoiding Wood from Endangered Forests, which can be found at www.rainforestrelief.org/What_to_Avoid_and_Alternatives/Rainforest_Wood/Summary_Guides/Guide_for_Consumers_and_Companies.html. More importantly, you can email Rainforest Relief, at info@rainforestrelief.org, whenever you are considering using wood. The organization responds to every question.

Wood is an amazing and often beautiful material made from living organisms that support thousands of others and sustain entire ecosystems. We all depend on forests, whether we think about it or not. We can sustain them, reduce carbon emissions and spare unique life forms—*if* we remember this when choosing wood. ■

—Tim Keating serves as director, trustee and cofounder of Rainforest Relief, an environmental organization esablished in 1989.