



# Sustainable Shopping

A consumer's guide to purchasing wood products



# Sustainable Shopping: A Consumer's Guide to Purchasing Wood Products



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*It's time to build a birdhouse, design your deck or replace your rocking chair.*

# Your wood purchasing choices can make a difference for the planet

By purchasing sustainable wood products, American consumers can encourage companies to implement policies that will protect the forests in their supply chains.

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# What's at stake?

Our planet lost more than 25 million hectares of forest in 2021, a land area nearly the size of the United Kingdom.<sup>1</sup> The devastation occurs across the globe, in hot, humid tropical forests humming with life; in tall, temperate forests enveloped in fog and moss; and in the vast boreal forest, which circles the northern hemisphere in a ring of spruce, firs and jackpines.

The production of beef, soy and palm oil drive the majority of deforestation in tropical rainforests.<sup>2</sup> The extraction of wood products, including lumber, wood pellets and wood pulp is a major cause of deforestation and degradation in tropical rainforests, temperate forests and boreal forests alike.<sup>3</sup> The onus for regulating logging and development in forests is on the world's governments and companies, which should implement policies that protect the forests in their supply chains. Although these entities are slow to protect forests, consumers do have the power to encourage corporations to implement better policies faster by asking for and purchasing forest friendly products.

## Climate Change

Forests are essential for mitigating and adapting to climate change. They absorb and store carbon dioxide, a greenhouse gas that contributes to global warming. When trees die in many forests, much of that carbon dioxide can be trapped indefinitely as peat, a type of carbon-rich soil.<sup>4</sup> Forests' ability to remove carbon dioxide from the atmosphere and store it in vegetation and soils makes preserving forests vital to meeting global climate change targets.<sup>5</sup> In fact, our planet's forests absorb about one-third of global fossil

fuel emissions each year.<sup>6</sup> The trees and soil of the Canadian boreal forest alone store nearly twice as much carbon as all of the recoverable oil reserves in the world, combined.<sup>7</sup>

Unfortunately, when forests are removed or degraded, much of the stored carbon is released into the atmosphere. In 2020, 2.5 billion metric tons of carbon dioxide was added to the atmosphere from tropical forest loss.<sup>8</sup>

Despite the common argument that the carbon released from degraded areas can be counteracted by planting new trees, allowing existing forests to remain standing is a far more effective means of reducing our carbon footprint. Forests that are cut down continue to emit carbon for more than 10 years.<sup>9</sup> In addition, undisturbed forests store 30-50% more carbon than previously logged forests.<sup>10</sup> That's one reason why smart forest management would preserve our mature and undisturbed forests and only harvest wood from previously logged stands.



Caribou. Photo credit: Bering Land Bridge National Preserve, CC BY 2.0

## Biodiversity

Forest ecosystems are incredibly essential to biodiversity – it’s estimated that 80% of the world’s land biodiversity is located in forests.<sup>11</sup> Tropical rainforests cover less than 10% of our planet’s land but host two-thirds of the world’s biodiversity.<sup>12</sup> The boreal forest of Canada is home to billions of migratory birds; nearly half of North American bird species breed there.<sup>13</sup>

But deforestation and forest degradation lead to habitat loss, which threatens biodiversity. Forest fragmentation—the splitting of large tracts of forest into smaller pieces by logging roads and development—can reduce a forest’s biodiversity by as much as 75%, putting millions of species at further risk of extinction.<sup>14</sup> Logging’s threat to biodiversity underscores the necessity of preserving undisturbed forests, which provide the best chance of survival for animals that require large ranges, such as jaguars.<sup>15</sup> In Canada, human disturbance in the boreal forest has contributed to endangering more than half of the iconic woodland caribou units—a cornerstone of many Indigenous tribes’ culture and history.<sup>16</sup> Deforestation has brought many more species to the brink of extinction, including the Sumatran and Bornean orangutans of Indonesia, where more than a quarter of the forests have been lost in only 25 years.<sup>17</sup> Besides the innate value and right to survival of these species, threats to biodiversity represent a major loss for human medical progress – biodiversity is critical for the discovery of new medicinal compounds.<sup>18</sup>

## Medicinal Compound Discoveries - The Madagascar Periwinkle<sup>19</sup>

*Thanks to a small pink flower native to Madagascar, the survival rate of several types of cancer increased from 10% to 95% in the 1960s. Inspired by the medicinal use of the Madagascar Periwinkle by traditional healers, researchers explored the flower’s potential to treat diabetes. When extracts from the flower reduced the count of white blood cells in mice, researchers decided to isolate several complicated compounds that, as far as we know, only exist in the Madagascar Periwinkle. One of the two resulting drugs, vincristine, treats childhood acute lymphoblastic leukemia and non-Hodgkin lymphomas. The other drug derived from the Madagascar Periwinkle has been used to treat testicular, ovarian, breast, bladder and lung cancer in combination with other drugs. Who knows how many more medical miracles biodiversity may provide?*



Photo credit: Madagascar Periwinkle. HQ, Flickr (CC BY-SA 2.0).

## Community Health

Finally, forests are imperative to the sustenance and cultures of communities across the globe. Forests provide drinking water for millions of people.<sup>20</sup> Forests provide food directly from harvesting and hunting in forests, and indirectly by supporting pollinators, fisheries and pest-control species.<sup>21</sup> In fact, higher forest cover is correlated with greater nutrition and health in rural communities.<sup>22</sup>

Deforestation comes with quantifiable costs; it increases instances of erosion which can impede water treatment systems.<sup>23</sup> Erosion also leads to infrastructure damages and economic upsets from impaired flood buffers and droughts.<sup>24</sup> Deforestation can cause mudslides, cutbacks in hydropower productivity, unhealthy fish stocks and reduced tourism profits. Poor communities are likely to suffer the most from the costs of deforestation, especially if they do not have the means to replace the services and goods that forests provide for free.<sup>25</sup>

For some cultures, forests provide more than sustenance. Many forests are held sacred and intertwined with the cultures of the people that live in

and near them, some of whom have been tied to the forest for millennia. Likewise, forests that are owned legally or customarily by Indigenous communities are deforested half as much as other forests.<sup>26</sup> A growing body of evidence suggests that a smart and ethical conservation strategy is to protect Indigenous communities' right to free, prior and informed consent (FPIC), which is the right to determine which third parties, if any, are able to manage forests on their land.



*Photo credit: Adair Broughton, Flickr (CC BY-NC-ND 2.0)*

# What should I buy?

Although companies ultimately decide which products are on shelves or offered online, consumers have enormous potential to influence those decisions. If consumer demand for a product decreases, maintaining a business-as-usual approach will be less profitable for suppliers. So, if consumers purchase less unsustainable wood and paper products and start purchasing forest-friendly products instead, that preference may drive and guide how companies stock their shelves and produce their goods.<sup>27</sup>

Considering the state of the world's forests, it's time for consumers to flex their power and shift demand towards forest-friendly products: products made of recycled materials, non-wood alternatives or responsibly-sourced wood.

## 1. Recycled products

Recycled products are the most sustainable wood-derived option because they reduce pressure on forests and prevent older wood-derived products from entering the waste stream. Recycled materials fall into two categories.

1. Post-consumer recycled content is made of previously-used materials. An example is reclaimed wood—wood salvaged from old barns, furniture, gym floors, or other places. Using reclaimed wood reduces pressure on forests while also lengthening the life span of the lumber, which consequently keeps the carbon stored in the lumber locked out of the atmosphere for longer. Unfortunately, reclaimed lumber and furniture are often more expensive than traditional lumber because they take longer to process than freshly felled wood, and the supply is less consistent (but you can

find it at Home Depot, Etsy, Pottery Barn or eBay). Although reclaimed wood may be difficult to use for large-scale construction, it is a great option for artisan and DIY projects.

2. Pre-consumer recycled content originates from the manufacturing process; unused stock from publishing houses, for example, can be made into tissue paper. Paper scraps from manufacturing paper products such as envelopes are typically repurposed to make other paper products.<sup>28</sup>

Investing in recycled content is the best option for conscious consumers.

## 2. Alternative materials

Recycling isn't the only way to protect forests from deforestation and degradation. There is a promising alternative to wood: bamboo. Bamboo is a rapidly growing plant; it can be harvested just 3-4 years after planting and annually thereafter—much faster than wood, which is typically only harvested every 10-30 years.<sup>29</sup> Other qualities that make bamboo an excellent substitute for wood-derived products include its strength, resistance to flame and elasticity.<sup>30</sup> In addition to reducing pressure on forests, bamboo cultivation uses less energy than production of other building materials such as brick and cement.<sup>31</sup> Bamboo can be grown on wasteland or unused river banks, which mitigates flooding potential and absorbs carbon from the atmosphere.<sup>32</sup> Many companies have already adopted bamboo to produce tissue products and construction materials. However, not all bamboo is equally sustainable. When bamboo plantations replace natural

forests, biodiversity plummets, and ecosystems suffer. Therefore, it is important to look for bamboo products certified by the Forest Stewardship Council, which verifies the bamboo was grown responsibly.

Bamboo is not our only option; there are dozens of alternatives to wood-derived products on the market. Wheat straw, a residue of wheat farming, can be collected and turned into tissue products rather than being burned or disposed of in landfills.<sup>33</sup> Rather than building with lumber, innovators are creating novel construction materials, such as bricks made of post-consumer recycled plastics.<sup>34</sup> Hempcrete, another possible replacement for lumber, is a construction material made from hemp plants.<sup>35</sup> Even mycelium fungi is a promising substitute.<sup>36</sup> While these products are limited in availability, they all reduce pressure on forest resources and demonstrate that innovation can overcome our perceived reliance on wood. As demand increases, alternatives to wood products are likely to become more widely available.

### 3. Responsibly Sourced Wood: Forest Stewardship Council (FSC) certification

For some projects, recycled wood may be unavailable and bamboo may be inappropriate. Unused wood, often from home improvement retailers such as Home Depot or Lowe's, may be the only option. However, not all unused wood options are equal.

As consumer preferences trend more and more towards sustainable options, many companies respond by marketing their brands as “sustainable.”<sup>37</sup> When a company's claims about their environmental impact are misleading, this marketing is called “greenwashing.”<sup>38</sup>

Greenwashing in the marketplace makes it difficult for consumers to purchase authentically sustainable products—as is the case in the wood and wood product market. The only way to ensure that a product is produced sustainably and ethically is to confirm that it has been certified by the Forest Stewardship Council (FSC). To learn more about the history of third-party certifications like FSC, see Appendix I.

Globally and within North America, three programs certify the greatest amount of forest land: the FSC, the Sustainable Forestry Initiative (SFI) and Programme for the Endorsement of Forest Certification (PEFC).<sup>39</sup> Each program emphasizes the goal of promoting environmentally appropriate or sustainable forest management. But studies that have compared the standards for each of these certifications have found that **FSC provides the most prescriptive and extensive environmental protection for forests**, and that the standards for environmental protection afforded by other certification programs, including SFI and PEFC, are superficial.<sup>40</sup>

The Forest Stewardship Council certifies a variety of wood products—from toilet paper to lumber. There are three types of FSC certifications. FSC recycled products are the best option because they are made from entirely pre- or post-consumer recycled content, so no new trees need be harvested for production. FSC 100% ensures that the companies that harvested the trees used to make the product complied with all of FSC's principles. FSC Mix is less stringent; only a portion of the materials used to make the product come from supply chains that comply with FSC's certification standards.<sup>41</sup>



Photo: FSC consumer labels for products.

In order to become FSC certified, organizations that manage forests must ensure that they are in compliance with FSC's 10 guiding principles (see Appendix II). The principles require that the organization must maintain the wellbeing of its employees, local communities, the ecosystem, threatened species and respect the ownership of Indigenous communities.<sup>42</sup> Of course, no certification system is perfect, and the stringency and efficacy of FSC varies from country to country. In the United States and Canada, FSC is considered to be the best

and most credible third-party certification program for wood products by environmental organizations.<sup>43</sup> Environmental organizations such as the Natural Resources Defense Council, the National Wildlife Federation, and Greenpeace USA endorse FSC and dozens of companies have distanced themselves from its North American competitor, SFI.<sup>44</sup> In Russia, the legitimacy of both FSC and PEFC certified Russian wood has been undermined.<sup>45</sup> And while one study found that FSC certification had no impact on forest cover loss in Mexico, other studies have verified that there are environmental benefits to achieving FSC certification in Chile, Indonesia and Guatemala.<sup>46</sup> A study that simulated Douglas fir forests managed in Oregon and Washington found that forests managed in line with FSC standards consistently retained more carbon than did forests only managed in the states' 'business as usual' method.<sup>47</sup> In sum, although not implemented consistently around the world, FSC standards provide the best guarantee that wood products have been sourced responsibly.

# What should I avoid?

Without a third-party certification, there is no way to verify that wood-derived products were harvested any more responsibly than is required by their place of origin's government regulations, which may be biased towards the profitability of the logging industry. **Consumers should avoid non-recycled wood products without FSC certification or no certification.**

In certain regions of the world where illegal logging is rampant, wood exports may not even be subject to governmental oversight. Whether due to lenient regulations or poor implementation of regulations, certain forests around the world are existentially threatened. Wood products from these threatened

forest regions should be avoided entirely: The Amazon, Atlantic Forest/Gran Chaco, Borneo, Cerrado, Choco-Darien, Congo Basin, Eastern Africa, Eastern Australia, Greater Mekong, New Guinea and Sumatra.<sup>48</sup>

Certain species of trees are especially vulnerable to logging, either because they are rare or threatened with extinction to some capacity. Vulnerable tree species should be avoided when purchasing wood products. The Wood Database lists tree species that may be identified as threatened by the Convention on International Trade of Endangered Species (CITES) or the International Union for Conservation of Nature (IUCN) or both.<sup>49</sup>

# Conclusion

Protecting our planet's forests requires action from individuals, corporations and governments. Governments must pass science-based policies that protect the long-term ecological, economic and cultural values of forests within and beyond their borders. Corporations must institute robust policies that protect forests. Companies also must provide avenues for local and Indigenous communities to communicate grievances and receive recompense when forests in and around their communities have been degraded. Any entity extracting resources from a forest should be regularly audited by an independent third party.

Until all corporations and governments institute forest-friendly policies, individuals should use the power of their wallets to influence what types of products are offered. In fact, without the demonstrable evidence that consumers will opt for sustainable products when given the chance, we can expect little progress from

corporations. The more individuals who purchase recycled materials, non-wood alternatives or responsibly-sourced wood, the sooner we'll have effective forest conservation.



*Photo Credit: Nathanael Coyne, Flickr (CC BY-NC-ND 2.0).*

# Appendices

## Appendix I: History of third-party certifications

International forestry certification systems originated as a response to global concern over tropical deforestation in the 1980's.<sup>50</sup> Forestry certifications are designed to inform consumers if a wood product was harvested in an environmentally and socially responsible manner.<sup>51</sup> One of the first forestry certifications, the Forest Stewardship Council (FSC), was formed in 1993 by environmental organizations.<sup>52</sup> Shortly thereafter, in 1994, the Sustainable Forestry Initiative (SFI) was established by the American Forest & Paper Association, a group that represents timber companies and 87% of the pulp & paper production companies in the United States.<sup>53</sup> Since then, many regional or national forestry certifications have been developed that are specific to their place of origin. The Programme for the Endorsement of Forest Certification (PEFC) – the largest forest certification program in the world –endorses smaller, regional certification programs to bring them international recognition.<sup>54</sup> For example, by being endorsed by PEFC, the North American specific SFI label is imbued with the recognition and legitimacy of PEFC forestry standards in foreign markets.<sup>55</sup>

## Appendix II: Forest Stewardship Council Principles Summary<sup>56</sup>

1. Follow all laws and regulations;
2. Maintain or enhance the wellbeing of its workers, including gender equality, providing a safe working environment, living wages, job training and a system for resolving property damage and occupational diseases or injuries;
3. Uphold the legal and customary land rights of Indigenous Peoples. Third parties that would like to manage Indigenous Peoples' land must first obtain their Free, Prior and Informed Consent (FPIC);
4. Maintain or enhance the wellbeing of local communities and recognize their legal and customary land rights. Third parties that would like to manage the land of local communities must first obtain their Free, Prior and Informed Consent;
5. Maintain or enhance the region's long term economic value, environmental benefits and social benefits;
6. Maintain and restore ecosystem services and avoid damaging the environment, including the preservation of biodiversity, natural forests and rare or threatened species;
7. Write and implement a Management Plan, accessible to stakeholders, that outlines how the organization will manage the land sustainably;
8. Monitor their Management Plan to ensure it is effectively protecting the environment;
9. Maintain or enhance the site's High Conservation Values. These values include biodiversity, threatened habitats, ecosystems, ecosystem services, and the ability of the site to sustain local communities;
10. Manage the land according to the economic, environmental and social policies required by FSC, including planting native species, avoiding fertilizers and pesticides, and disposing of waste appropriately.

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