

SEAONC Sustainable Design Committee

Sustainable Material Design Information –Wood

Expansion of initiative #1: **Specify wood products that come from regional, sustainably managed forests**

There are several ways that Structural Engineers can have an impact on sustainability through their wood specifications to help insure that lumber comes from sustainably managed forests, the most common and straightforward method is to call for wood to be certified by one of the recognized forest certification programs.

However, one issue that keeps coming up time and again is FSC vs. SFI certification, which due to LEED and the USGBC has become very political and people have become entrenched. Our belief is that both FSC and SFI have a place in the sustainable building industry, if for different reasons.

FSC is the most of the wood certification programs available to California engineers. It should be noted that the argument for FSC structural lumber certification is not as strong here on the West Coast of the USA, where state combined with federal regulations make the large majority of all wood harvesting fairly sustainable. FSC originated as a solution to tropical rainforest deforestation, where it remains extremely valuable. As structural engineers, most of the wood species we specify: Douglas fir, Redwood, and Cedar are grown here on the West Coast of the USA and Canada. That being said, even here FSC does have meaningful impact and provides the highest level of forest stewardship, although it usually requires a price premium. Most FSC plantations are visibly different than many of their SFI counterparts: they often have smaller and more widely spaced clear-cuts, and more rigorous controls on pesticides, wildlife maintenance, harvesting operations, etc. (This may be especially true for Coastal Redwood since these plantations are particularly sensitive to forestry operations.)

The argument for SFI is somewhat different, and is based on the proposition that industrial plantations are not necessarily in opposition to sustainable use of wood (especially when Best Management Practices are used), due to their high yield and resulting economic value.

Much research and data to date have shown that well managed industrial plantations have many of the same benefits as natural forests and (despite the ugly appearance of clear-cuts), when part of a comprehensive forestry program are actually healthy in maintaining wildlife diversity. Further, land that is maintained as forest vs. converted to farm land or worse, sprawl development, is vastly more beneficial to the environment for its ability to store carbon, filter and store water, and maintain diversity, as well as being managed to avoid forest fires. Another broad advantage of industrial plantations is that they provide very high yield of wood fiber, thereby keeping price low and supply of structural lumber sufficient to encourage more wood construction, while also reducing the need for alternative sources of lumber such as National Forests or import from other countries.

So specifying SFI (or American Tree Farm) certification allows for industrial plantations, while providing additional assurance of Best Management Practices, while being flexible enough to be specified for most projects without increase in cost or difficulty in sourcing.

By Dmitry Ozeryansky, PE