In the opinion of some people, using trees for anything other than their standing aesthetic beauty is sinful. Some take it so far as to threaten or commit extreme acts of vandalism. Steve Henson, Executive Director of the Southern Appalachian Multiple-Use Council, warns of potential extremism in western North Carolina in a June 9, 2010 opinion piece in Asheville’s Citizen-Times (see http://www.citizen-times.com/article/20100609/OPINION03/100609020/WNC-should-be-wary-of-potential-upsurge-in-extremism ). Mailings by Earth First! are also mentioned, and Mr. Henson points out their philosophy of “Deep Ecology” which holds that all forms of life on Earth have equal value in and of themselves, without regard for their utility to human beings (see http://en.wikipedia.org/wiki/Earth_First ).

This philosophy is wrong-headed and leads to the de-civilization of humanity. Our goal should be to thoughtfully determine the best way to create a sustainable society and world, without retreating to the caves of our ancestors.

The forest and wood products industries have been the target of such groups for many years and it can be disheartening to hear their message repeatedly. Ten years ago I was in such a state of mind when I went to a Forest Products Society meeting in Lake Tahoe and heard the keynote speaker, Dr. Patrick Moore. Going to listen I was skeptical. Moore had been a co-founder of Greenpeace, so I really questioned why he was giving the keynote address. It turns out I was wrong and Dr. Moore had a very positive message which he titles “Trees are the Answer” and provides a very reasoned argument for the utilization of wood from the forest. (Dr. Moore left Greenpeace in the mid-1980’s). I provide a summary of some of Moore’s arguments here in hopes that they will help you speak about the virtues of forest management and wood utilization:

Clearcutting. “Environmental” groups want you to believe that the ugly appearance of a recently harvested forest is the same as the permanent destruction of the forest environment. In reality, the clearcut is totally organic and will soon grow to again be a beautiful new forest. Too often we judge “good” or “bad” based on our perceptions of aesthetics. A meadow is beautiful and therefore judged “good” while a clearcut may be viewed as ugly and judged to be “bad”. Actually the meadow is a small desert capable of supporting only drought resistant grasses and non-woody plants, while within a year or two after harvesting the clearcut is likely to have a higher biodiversity than the meadow, and in a decade be considered a young forest.

Deforestation. Clearcutting is not deforestation. Deforestation occurs when... (continued)
the forest is removed permanently. Dr. Moore points out that deforestation is not an evil plot, it is what humans do to feed and house the 6.8 billion people on planet Earth. My conclusion is that deforestation has given us (and the EarthFirsters!) the beautiful farms that feed us, our neighborhoods where we live, and even shopping malls and acres of affiliated parking lots.

Species Extinction. In 1996 the World Wildlife Fund announced that 50,000 species are going extinct each year due to human activity, mostly due to logging. There are no examples as evidence, however, and no species have become extinct due to forestry. The reported 50,000 species disappearing annually was generated on a computer model developed at Harvard. Now, human activity actually does cause extinction of some species. In the real world, please note that species extinction is primarily due to the introduction of exotic predators and diseases. Additional causes of species extinction are that humans have wiped them out for food or because they were pests, and the clearance of forests for agriculture. So, although we do not know of a single species that has become extinct due to the practice of forestry, the general public has been given the impression through many “mainstream” media outlets that forestry is a major cause of species extinction, although there is no evidence to support that allegation.

Biodiversity. A few years ago the “environmental” community was focused on the clearcut which represented the loss of habitat, the resulting decrease in biodiversity with the implication that it would be that way forever. Of course many of us know that that is not the case. Consider biodiversity on a scale of 0 to 100. From Moore:”You would have to admit that the parking lot is pretty close to 0. There might be a blade of grass poking through in the odd place. A farm field or pasture might rate 5 or 10, compared to the original forest that was cut down, burned and planted to make the farm. Forestry, the way it is practiced today throughout most of North America, is 96, 98, 100, even 102, because in some landscapes forest management results in a wider range of age classes and ecosystem types than would normally occur in the absence of human activity.”

Dr. Moore’s major point is that we need to educate the public so that they do not equate health of the environment with landscape aesthetics. They must get beyond the immediate visual impression of the landscape and understand more about science, ecology, and biodiversity before making judgments about the ecology. You can link to the complete text of Dr. Moore’s Trees are the Answer presentation: [http://web.archive.org/web/20051119060817/www.greenspirit.com/trees_answer.cfm](http://web.archive.org/web/20051119060817/www.greenspirit.com/trees_answer.cfm)

Just as the public needs to be educated about forestry so we can continue to harvest logs, we also need to educate the American consumer about the importance and benefits of purchasing wood products grown and manufactured domestically. We really do have a great story to tell about wood products. Wood is the only sustainable material used to build “stuff”. It is converted solar energy. We grow it locally. We use it to build products locally. We need these products locally. In an era when manufacturing is not viewed favorably by some and much of it has moved offshore, when most of our goods seem to be made elsewhere, we may be approaching a time when our logs are shipped offshore rather than taken to the local sawmill (as was done in many third countries before they outlawed it). Preliminary research here at NC State suggests that environmentally friendly, locally sourced, and customized products, rank as low priority characteristics for consumers considering furniture purchases. This represents an opportunity for us to educate the public about the virtues of American made products built using domestically grown wood.

This education effort must be more than a bumper sticker campaign. Do you remember the “Forests are America’s Renewable Resource” from the 1970’s? If that had been an over-the-top success back then we might not need to deliver such a positive and energetic message designed to educate today’s consumers. We all (wood manufacturers, woodworkers, sales and marketing, and especially educators) need to proactively market American wood products with what might be called “The Woodworkers’ Tenets”:

- Our domestic woods are sustainable, renewable, and natural.
- Domestic wood products are environmentally manufactured, requiring less energy to make and transport than alternative materials, and function as a warehouse to store carbon and mitigate global warming.
- American manufacturers offer quality wood products manufactured locally from locally sourced woods.
- Wood is workable, versatile, customizable, durable, abundant and affordable.

Consider the above as a draft. If you have thoughts about any of this, whether you disagree or have additional arguments, send me an email at: phil_mitchell@ncsu.edu.
Keys to Future Woodworking Success

This past April Steve Lawser, Executive Director of the Wood Component Manufacturers Association (WCMA), gave a presentation at the Weinig Technology Expo in Mooresville, NC.

Mr. Lawser reviewed data showing how low-cost, off-shore competitors have impacted our domestic wood industry segments in terms of decreasing market share and employment. Table 1 illustrates how the component markets have shifted based on WCMA Market Studies. Lawser also noted several characteristics of successful wood product manufacturers.

The successful company has:

- Access to quality and value-priced wood resources (materials are often more than 50% of cost)
- A marketing advantage (close proximity and relationships with customers, and the flexibility to adjust)
- A production advantage (state-of-the-art machinery and manufacturing techniques to maximize productivity, lower costs, and produce high quality, precision products)
- Access to capital and adequate cash flow (this continues to be a challenge)
- Active “hands on” management and technical expertise.

To succeed in the current economic climate the domestic wood manufacturer must do what the imports can’t do. Speed is the key to competing with off-shore providers. Additional suggestions are:

- Produce unique products (curved doors, rope mouldings)
- Offer unique services (sand, finish)
- Focus on mass customization rather than mass production (like Dell Computers and Nike)
- Sell to companies that produce custom, brand name or niche products
- Quicker, on-time deliveries

According to Mr. Lawser, to compete with the low and lowest cost manufacturers, domestic companies need to focus on non-price advantages. These include:

- Guaranteed delivery times
- Ability to ship small orders
- Ability to make last minute changes
- Consistent quality
- More flexible payment terms
- Lower transportation costs to nearby suppliers and customers
- Promote quality and renewable “green” timber resources, a key North American advantage!

Beyond 2010, WCMA advises strategies that:

- Produce innovative, more customized and differentiated products.
- Focus on product design, finishing, marketing and distribution (NKCA study)
- Adopt new production technologies and lean manufacturing techniques to improve productivity
- Focus on cost reduction
- Offer lower cost product options
- Expand into new markets and applications
- Improve & update company websites

The WCMA represents wood component industries in the U.S. and Canada. To learn more visit [www.woodcomponents.org](http://www.woodcomponents.org), or email [wcma@woodcomponents.org](mailto:wcma@woodcomponents.org), or phone (770) 565-6660.

A Look in the Crystal Ball – Part 2

By David Ashcraft, Executive Director of Development and College Relations, College of Natural Resources (David came to NC State from the pulp and paper industry, so while this two-part article has a viewpoint from that industry, it should be of interest to anyone purchasing logs or dependent on lumber production.)

The first part of this article was published in the March 2010 newsletter. Briefly, the likely future trends discussed there were:

1. Higher energy costs.
2. Global increase in demand for goods.
3. Some manufacturing, including furniture, will return to the U.S.
4. The U.S. share of world GDP will continue to fall, stabilizing at 20% of world GDP.
5. Significant increase in inflation.
8. Higher taxes.
9. Major failure of Medicare, Medicaid and healthcare unless something is changed.
10. The U.S. dollar will be weaker.
11. Terrorism and major world incidents will increase leading to increased emphasis on self sufficiency for the U.S.
12. Pulp mill production will stabilize at about 50 million tons annually.
13. Increased emphasis on sustainability – benefitting the forest products industry.
15. No change in the greed and selfishness of people.

This newsletter will present specific trends related to the forest products industry.

Traditional Markets

**Sawtimber.** Softwood sawtimber will continue to be the most profitable product from our forests for the next 5-10 years. Housing still is not out of the woods.

(continued)
Household growth is down, net disposable income is down and unemployment is high. Demand for new housing starts will not equal the demand of the last decade but will gradually increase from the current level.

Two other factors impacting sawtimber are favorable; the U.S. south will enjoy good demand because of beetle problems in Canada and the relative low value of the dollar. There should continue to be fewer lumber imports into the U.S. and increased opportunity for exports to markets where housing is growing. An example close to home is Haiti. Why aren’t we pushing for increased use of lumber in the rebuilding of Haiti’s housing? One thing to watch for - the product mix for sawtimber from the forest could very well change as engineered wood takes the place of lumber; the result could be a shorter rotation for plantations.

The demand for hardwood sawtimber will not be as strong as for softwood with uses continuing to be flooring, cabinets, and pellets. I do think some furniture manufacturing will come back to the U.S. but not in significant quantities in the next few years.

A number of economic forces will increase manufacturing in the U.S. For one thing, we can’t reduce manufacturing much more and survive. I believe that within my lifetime, the increasing cost of transportation combined with the rising cost of labor in the third world combined with global tensions will reduce the export of raw materials from the U.S. Reduced purchasing power will decrease the imports of finished goods to this country, and although our standard of living will probably be reduced, those products we do have will be manufactured here. If I am correct, the U.S. south’s forest products industry will benefit.

Pulp and Paper. The pulp and paper industry in the U.S. will continue to decline and eventually reach equilibrium at about 50 million tons or 50% of its peak production rate. Most of this decline will occur in printing and writing grades, including newsprint where structural changes have been underway for many years. The internet, iPad, Kindle, increased digital advertising, decreased print advertising and the overall economic slowdown have significantly impacted this segment of the industry. For reasons discussed elsewhere in this paper, exports and imports will have a declining effect on the industry.

Sadly, as in the case of most industries in decline, current leadership in the industry will not recognize solutions to problems and the transformed forest products business of the future is likely to be determined by those who are not in the business today such as utilities or energy companies. By the way, Asian CEO’s are extremely optimistic about the future of the pulp and paper industry in their countries. And finally, surprisingly, the stock market performance of the pulp and paper companies that survive will be good. In fact, this sector outperformed the average market for calendar year 2009.

Opportunities in Energy and Environmental Services
Energy and environmental services markets are real, and although they are young, and the rules and regulations are not yet fully established, don’t overlook the opportunities that are developing for energy and environmental services from forests.

(The U.S. does not have a coherent and clearly thought through energy policy. Even the players in the forest products area can’t agree on what’s best for our own industry much less for the U.S. Part of the confusion rests with the ownership structure in Forest Products. Now that forest products companies have divorced themselves from ownership of land for the most part, the manufacturing entities are opposed in many cases to anything that might increase their raw material costs. Issues under discussion include the definition of biomass, the timing and rules for carbon cap and trade and a uniform renewable portfolio standard for renewable energy through the U.S.)

Ethanol from Cellulose. The demand for ethanol as a fuel is unlimited. We don’t grow a lot of corn in NC. We don’t have a refinery in NC. We do have lots of cellulose available and can grow more if we need to do so. Ethanol from cellulose is not ready for commercial production today, but we are closer than we were five years ago. The next step is a large scale mill trial. And yes, the IP mill at Franklin would be a good location. The mill has ozone and oxygen which are helpful in the ethanol process. Because hardwood and pine have different sugars, it is more efficient to treat the wood separately and the pulp mill at Franklin has the required chip handling systems and tankage to do this.

Couple of key factors to consider: the efficiency of the ethanol from cellulose process is not yet high enough for sustainable production, the selling price for ethanol probably needs to be near $3.50 - $4 per gallon, and at least in the short term a government subsidy will be required for the economics to work out. Even if successful, the initial projects will not use as much pulpwood as a traditional pulp mill.

Pellets. Pellets for fuel are probably closer to commercial reality than ethanol from cellulose. (Weyerhaeuser and Mitsubishi announced a partnership in early February that will focus on bio stuff. As I read the announcement, products could range from pellets to ethanol to electricity. Weyerhaeuser is large enough and has enough forestland to build several bio plants throughout the U.S.) There are already pellet plants in operation in other parts of the U.S. Large plants of ½ to ¾ million tons per year capacity have been announced for Florida and Georgia. The demand for pellets is coming from Europe and is driven by environmental considerations and regulations. (Some projections have indicated that total demand for wood fiber for biomass energy in Europe will require nearly a doubling of the European timber harvest or alternatively will require greatly increased reliance on imported wood fiber. Right now, the U.S. south is the external supplier of the wood fiber. Source: 2009 SC Forestry Magazine.) Here in the U.S. the renewable portfolio standard, requiring utilities to generate electricity from non renewables will increase the demand for pellets. And
because utilities are regulated and their costs are passed through to the customer, they will be tough competitors for unregulated users of wood such as panel board mills and pulp mills.

Since the pellets will be shipped large distances additional processes to drive off the moisture and organics become important. NC State, through a project sponsored by Golden Leaf through the Natural Resources Foundation, has demonstrated the benefits of a process called torrefaction to produce what some might call biochar.

Not everyone agrees with exporting pellets for fuel. Some environmental groups oppose cutting trees for anything, especially for export as chips or pellets. When articles are published indicating that we have to double timber harvest to satisfy demand, many alarms go off. One factor not yet considered is that the U.S. can significantly increase its production of cellulose with siviculture practices as well as genetics. I do not believe we have a shortage of fiber.

I believe that increased demand for wood for fuel will increase prices for pulpwood, leading to an increase in costs for the pulp mills and OSB plants that are still in production.

**Carbon Cap and Trade.** There has been much talk but little action regarding carbon credits and carbon cap and trade. With the failure of the environmental meeting in Copenhagen late last year, President Obama’s political troubles at home, and some of the discredited science regarding global warming, the passage of regulations regarding carbon caps and trades credits and greenhouse gases appears doubtful in the next year or so. (It is possible that President Obama will bypass Congress and use the Executive branch to make policy changes. EPA is currently proposing sweeping regulations for CO₂ and others in the Executive branch are proposal new regulations for wetlands.) Without regulations creating the market demand, there will be little demand for carbon credits. (The price for the credits fell about 30% in Europe after the Denmark conference ended, and even at this low price, much of the trading in carbon credits is speculation by investment bankers.) The price for carbon credits in the U.S. is much lower than in Europe and probably would not net a major landowner more than a few dollars per acre per year. One of the big problems right now is the accounting necessary for carbon trading to work. How do you account for a forest fire? Does the landowner have to pay back cash received in an earlier year, when due to weather the trees do not grow as predicted? What about stumps left in the ground, or residuals used for chips? What if the residuals go to a boiler rather than to ethanol?

I believe there will be lots of jobs for accountants and bureaucrats but little income for the tree farmer from carbon credits in the foreseeable future.

**Environmental Services.** Recognized environmental services include but are not limited to, wetlands restoration and preservation, species preservation and habitat restoration, stream preservation and restoration and watershed protection.

Although the prices for environmental services projects are enticing:
- $45,000/acre for wetland mitigation credit
- $250,000 for a pair of red cockaded woodpeckers
- $750/acre for conservation easement

. . . in reality, few acres qualify for these services, and fine print describing the regulatory requirements make the projects prohibitive for many land owners. A major problem for environmental services is determining the value of a particular species of woodpecker or a wetland or the rainforest. These values do not typically enter into the economic system. Unless this value can be determined, an acre of rainforest will always compare unfavorably with the same acre in soybean or palm oil plantations. Once this value has been determined and agreed to by society, the owner can be properly compensated for an environmental service. (Source: Bayon, Ricardo “Biodiversity Banking: A Primer. Ecosystemmarketplace.com, 11/20/09.)

Although there are some new projects and services that will benefit individual landowners, I don’t know of anything that equals the value of sawtimber – when there is a market for the sawtimber.

**Conclusion.** The truth that I want to leave with you is that we are alive. Our future is brighter than it has even been. But you must forget the old; look forward to the new. And you must become active. In North Carolina (as well as South Carolina) the forest products industry is the number one manufacturing activity in the state. We are Number 1! We have at least one forest products facility in every county in the state of North Carolina! No other industry can make this statement. And when you include the economic benefit of recreation and tourism, we rival agriculture for the best thing going in North Carolina! (The Forest Products industry in North Carolina has an annual economic impact of $30 billion and more than 200,000 jobs. In addition, 300,000 people grow trees to sell and the recreational uses of our forests provide an additional $50 billion impact.)

**Upcoming Wood Products Workshops from NC State University**

**42nd Annual Hardwood Dry Kiln Operator’s Short Course** – July 27-30, 2010 in Clyde, NC. For more information contact Whit Whitmire at 828-565-4246 or mwhitmire@haywood.edu

**Drying Hardwood Lumber Update – A One Day Workshop.** Sept 22, 2010 in Princeton, WV. For more information contact Joe Denig (919) 515-5582

**Upholstery Frames Using Lumber and Plywood** – Nov. 4, 2010, Hickory, NC

For additional information on the Upholstery Frame workshops, contact Harry Watt at (704) 880-5034 or harry_watt@ncsu.edu

**Wood Products Extension**

Find out more about us on the web: http://www.ces.ncsu.edu/nreos/wood/

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