THE LOG JAM

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Our Mission Statement - "The Woodlot Association of Alberta's purpose is to promote leadership in sustainable forest management by encouraging the development of private forest by increasing awareness of their inherent social, economic and environmental values."

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President's report

Laval Bergeron

Ah, summer again! And no tent caterpillars!! Just got to love it ☺ A little dry maybe...

June 12th & 13th was our unofficial AGM, because it had to be moved four months earlier from October to June. Elections did not take place therefore the board will remain the same for another 8 months. Next election will be June 2016.

Again this year, the association was represented at farm shows which seemed to generate interest however, it did not convert into new membership or an increase in tour and meeting attendance.
The association is currently working with the Alberta government on the possibility of extending woodlots into the green zone.

First, I want to thank Elton Kauffman for taking on the job of hosting the two days event and general meeting at Last Lake Resort on June 12th followed by a tour of his woodlot on the following day. I have visited a few woodlots over the years and every one of them has its own special features. You would think that a forest is a forest but apart from the mosquitoes, the hay ride, the walk and the wealth of information shared was well worth the trip. Fresh ideas were brought up at the meeting and we promise to follow up on them.

I wish you all a good summer and a little more rain.

Up Coming Events

Board of Directors - Teleconference **July 27, 2015**
August 31, 2015
September 28, 2015
All calls are at 7pm

Board meeting @ Whitecourt **October 16, 2015 @ 10am**
This board meeting will be open to all members, because there will be a "facilitator" who will help us work through what the WAA should/could do to increase our growth and be a benefit to members.

Editorial

Jurgen Moll

You may believe that the picture on the cover of this issue was completely staged, no this how I actually look when working in my woodlot and I was working in it. But that is not the reason why the picture was taken, rather it is to show off the two signs that the WAA has a supply of.

The one on the right is the "Gate Post" sign, that each member freely receives when they join the association, if you require more than one they most be purchased.

The sign on the left is the "Private Property" sign these must be purchased.

Both signs cost $25.00 plus shipping, the signs can be purchased by contacting our office at Olson's Management. Cheques must be made out to the Woodlot Association.

The purpose of the "Gate Post" sign is to advertise the association to the general public who by and large do not know that we exist or what our mission is. Therefore these signs should be hung in a prominent place which the traveling public will easily notice and hopefully take down our Web-Site and access it to learn what we are about.

For any member that may not have received a "Gate Post" sign when first joining the association please contact Herb Cerezke the membership chairman to get their free sign.

Well hope that you all enjoy the rest of the summer which always seems too short and the winter too long, the older I get the more this seems the case. But now is the time to enjoy your woodlot cause the berry pick'in time is at hand for many will be ready to pick fairly soon. The wild berries do have a great flavor as compared to those in the stores, therefore it is worth the effort to gather some.

Anonymous Donation

The Woodlot Association would like to thank the member who made a $1000.00 donation towards the Association, thanks again.

Out of sight...but not out of mind

Ever walk through the forest and come across several spruce trees lying in various directions all broken off at the base? Or how about walking through a regenerated cutblock or wellsite and notice several red, dead young pine? A little further digging into the matter might answer your curiosity. This issue's installment of getting to know your friendly neighbourhood forest pest covers a small group of species that one rarely sees yet their damage is quite noticeable and recognizable...subterranean pests.

Some forest pests in Alberta fall into the subterranean group as their life cycles and associated damages are generally under ground. There are three genera of these pests. Armillaria root rot, Tomentosus root rot and Warren's root collar weevil, are all common occurrences in the boreal forest, yet it is the tree mortality and damage that is usually seen first and gives their presence away. Armillaria root rot is caused by seven species in western Canada, of which *Armillaria ostoyae* is the most common in Alberta. The disease can be found on a variety of hosts, including pine, spruce, aspen and poplar. Signs and symptoms of the disease on larger trees include thinned, irregular shaped crowns and areas of blowdown. These areas are characterized by stems broken off at the base or butt, lying crisscrossed in several different directions (similar directions would possibly indicate a wind event). The disease can remain living for many years within infected stumps and initiate infections on young trees causing regeneration issues. On smaller pine and spruce trees, those that have been recently killed will have yellowish-red foliage. Digging into the soil around the butt area and roots will turn up white "mycelial" fans under the bark and also black shoestring type growths called rhizomorphs. In the fall, dark honey-colored mushrooms may also be present. The disease spreads throughout the stand through root to root contact, the rhizomorphs and possibly spores from the mushrooms. Due to the outwards spread from a central spot, the disease often causes "holes" in the stand which is another potential sign of an armillaria root rot center.

White mycelial growths on a mature aspen stem and white spruce root.

(Hawk Hills, north of Manning)

Tomentosus root rot is caused by two species however the main species of concern is *Inonotus tomentosus*. The disease is generally considered a pest of immature and mature spruce and pine. It too causes similar signs and symptoms on larger trees with thinned, irregular crowns, stems lying in several directions and distinct holes or stand openings. Infected trees have white pocket rot or reddish stain in the butt and roots. Tomentosus spreads within a stand by root to root contact and may also live and spread from infected stumps, 15 to 20 years following harvest.

Warren's root collar weevil, *Hylobius warreni*, typically feeds on pine and spruce and can be found within both mature and newly regenerated stands. They require two years to complete their development into an adult. The damage is caused by the feeding action of the larvae in the root collar area, just below the duff layer. This feeding can cause mortality in young trees if the root collar area is seriously girdled and may cause thinned, irregular crowns in mature trees. Smaller, young trees that have been recently killed will have yellowish-red foliage, very similar to Armillaria and one must either pull up the tree or dig into the soil to accurately determine the causal agent. Also, adult weevils present in unharvested, reserve blocks may migrate back into plantations and cause mortality and subsequent regeneration issues.

Warren's Root Collar weevil larva and feeding damage. (near Doig Tower)

Next time you come across some of these forest conditions, do a little digging and look a little harder. Chances are, one of these three common pests will be what you find.

Mike Maximchuk—Peace Area

REPORT OF THE WAA GENERAL MEETING AND FIELD TOUR, 12-13 JUNE, 2015

A general meeting of the Woodlot Association of Alberta was held on 12 and 13 June, 2015, in conjunction with a field tour. The location of the tour was at the farm of Elton and Esther Kauffman, near Bluesky, Alberta. An afternoon session of general meeting and guest speakers was scheduled for the first day and was held at the "Last Lake Guest House" located a few kilometers east of the Kauffman farm. Owners of the Guest House, Gosse and Hilda de Jong, provided accommodation on site as well as meeting room facilities and a renovated "barn" served for the woodlot guests congregating for an evening barbeque and socializing. The meeting was attended by 15 WAA members and additional guest speakers and invited guests.

The general meeting was relatively short and was followed by four presentations: the first speaker was Gordon Whitmore, Forester with Daishowa-Marubeni International Ltd., who reviewed the general woods operations and policies of DMI and also spoke about the arrangements the company has with private woodlot owners. The second speaker, Jeff Hoyem, Manager of Woodmere Nursery at Fairview, reviewed their operation of seedling production as a supply source available for reforestation on both private and crown lands in the province. Rick Keillor of Bluesky, the third speaker, described some procedures in the planning and establishment of farm shelterbelts using a variety of conifer and deciduous tree and shrub species hardy for the general agricultural area. The last speaker, Elton Kauffman, reviewed the arrangements for the field tour scheduled for the following day at his farm.

Guests who participated in the field tour were given a special hay ride treat to and from the woodlot sites. Most of the woodlot areas visited consisted of relatively young aspen and poplar forests with several hillside openings in which we were shown successfully established plantings of young lodgepole pine. Some special highlights of our tour emphasized the various tree/stand characteristics and ground floral composition as we progressed from the more moist sites to higher points in the hilly terrain. Another much wetter site featured a natural ingrowth of young white spruce with some mature over story spruce and poplar. Other interesting features of the tour included mention of historical trails in the area, some tree diseases, a search for edible mushroom species in season, and some familiar bird sounds and sightings. Ken Dies, who participated in the tour, provided expert knowledge of the mushroom species likely to occur in the area as well as of other fungi. The tour was concluded with a lunch served at the Kauffman home and included a tasty snack of an oyster mushroom species collected by Larry and Chris Nofziger while in the aspen forest. Special thanks are extended to Elton and Esther Kauffman who provided much of the meeting and tour arrangements and were our hosts for the tour and concluding lunch. We also express our thanks to Ken Dies for his participation and knowledge of the fungal species.

Submitted by H. Cerezke

Pictures from the "Bluesky" General Meeting

Directions to Elton's Woodlot - ***sure it won't rain***

It might rain a little - ***but we'll go anyway***

The hay ride - *hang on*

Meeting of the minds - *the best of times*

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Should Canadians have a right to burn wood for heat?

It's a part of a Canadian vignette that lives in so many of our memories; the crunch of sharp blades on pond ice, the brace of morning air, the smell of wood smoke from a distant chimney promising warmth for soon-to-be frozen fingers and toes.

But our children, it seems, will have different memories.

Across the country, the burning of wood for heat is under fire. In Montreal, it is already illegal to install a new wood burning stove, except for those that use energy efficient wood pellets, like the ones that have caught on in parts of Europe.

In smaller municipalities like Parksville, on Vancouver Island, the subject is contentious. Earlier this month, councilor Kirk Oates argued for the ban of wood-burning appliances. But the town's director of community planning, Blaine Russell, offered an alternate view.

"Many residents in Parksville are on fixed incomes and heating a home with wood is one of the most cost-effective methods available when compared to other options," wrote Russell in a report.

Other towns, like Prince George and Revelstoke, are taking a different approach, offering rebates to those who upgrade their old stove to a pellet, gas or electric one.

The case against wood fires is at once clear and complex.

In the United States, the Environmental Protection Agency has already banned the sale of the majority of wood burning stoves. New standards that will be introduced in May of this year will lower the limit for fine airborne particulate emissions to 12 micrograms per cubic metre, down from 15 micrograms per cubic metre.

"Particulate pollution from wood heaters is a significant national air pollution problem and human health issue." said the EPA in its own recent regulatory impact analysis. "These regulations would also significantly reduce emissions of many other pollutants from these appliances, including carbon monoxide, volatile organic compounds, hazardous air pollutants and black carbon. Emissions from wood stoves occur near ground level in residential communities across the country, and setting these new requirements for cleaner stoves into the future will result in substantial reductions in exposure and improved public health."

But a report from the Norwegian Institute of Public Health says the issue is not only a matter of the type of stove, it is as much about the type of wood that is being burned, and its chemical composition, solubility and size.

"The physical and chemical properties of particulate matter from wood-burning have great influence on how these particles may affect our health. Worsening of cardiovascular diseases and respiratory diseases such as asthma and chronic obstructive pulmonary disease are the main concerns," noted the institute's Anette Kocbach Bølling.

In Paris, a proposed ban on wood fireplaces that was to take place on January 1st of this year, was reversed. A campaign led by ecology minister Segolene Royal was successful after doubts were raised about a report from air quality monitoring network Airparif that claimed fireplaces were responsible for 25% of fine-particle emissions.

Another issue with data used in arguments against wood as fuel is the error of omission made when the harmful impacts of its emissions are considered without accounting for the source of power they are replacing, which is likely to be fossil fuels such as propane and heating oil.

What is clear is that, going forward, home heating from wood will not be the most efficient method available. But what is equally clear is that that day has not yet arrived for everyone. In the meantime, incentives like rebates should be combined with an education campaign from the like of the EPA and Environment Canada.

Anyone who has enjoyed the warmth of an aged hardwood fire knows there is a world of difference between a green softwood fire started with cardboard and broken down shipping pallets and the warm, smoke free glow of seasoned oak with a moisture content under 20%. There's also a huge difference in emissions.

New Invasive Species Website Provides Information to Protect Canada's Forests and Green Spaces

SAULT STE. MARIE, ON--(Marketwired - March 24, 2015) - The Invasive Species Centre has launched a comprehensive new website on invasive species in Canada's forests. *Forest Invasives Canada* (www.forestinvasives.ca) provides an easily-accessible portal for information regarding the invasive species that threaten Canada's urban and working forests and green spaces. The website features profiles of target species, recent research and management strategies, and in-depth discussions on the overall ecological, social, and economic impacts of invasive species in our forests.

"Invasive pests are a serious threat to the health of our forests and urban green spaces," said Dr. Taylor Scarr, Provincial Forest Entomologist with the Ontario Ministry of Natural Resources and Forestry. "These species have the capacity to devastate entire ecosystems if appropriate management strategies are not implemented. Programs and policies to combat invasive species must be early, aggressive, and sustained."

Targeting a broad audience, the website provides viewers with instructional videos, webinars, outreach materials, current news, and information from invasive species experts. Visitors to the website can learn about invasive species that threaten trees and forests, including the emerald ash borer, Asian longhorned beetle, mountain pine beetle, hemlock woolly adelgid, and beech bark disease. With opportunities for a scan or deep dive, the website offers introductory information to viewers who want to learn about invasive species for the first time, as well as technical and scientific information for those interested in exploring the topic in greater detail.

Dilhari Fernando, Executive Director of the Invasive Species Centre, said, "To prevent and control the spread of invasive species that harm Canada's environment, economy and society, it is important that we make credible information easily accessible to multiple users. The *Forest Invasives* website will consolidate and disseminate information to a broad audience, ranging from experts to homeowners, and facilitate the timely sharing of new information."

Forest Invasives Canada will increase awareness of the threats posed by invasive species, and provide knowledge and information that will empower citizens to identify invasive species and stop the spread. If an invasive species enters a suitable forest habitat, and is undetected and unregulated, it can become established in the environment and spread uncontrollably across the landscape. Left unchecked, this can cause immeasurable impacts to our economy, ecology, and social values. Invasive species introductions are commonly regarded as the second greatest threat to global biodiversity, next to habitat loss. *Forest Invasives Canada* provides tools to help everyone protect the biodiversity in our forests.

About the Invasive Species Centre:

The Invasive Species Centre is a non-profit, non-governmental organization that connects stakeholders, knowledge and technology to prevent and reduce the spread of invasive species that harm Canada's environment, economy and society. The Invasive Species Centre: brings together experts; supports, coordinates and leads projects; and communicates findings and outcomes to prevent the spread of harmful invasive species. Visit our other websites at www.invasivespeciescentre.ca and www.asiancarp.ca.

What does genomics mean for the environment? Everything

All aspects of our health and well-being depend on a healthy environment. In Canada, we have a responsibility to protect our fresh water reserves, abundant forests and expansive agricultural lands. And we need to learn to extract our significant mineral and fossil fuels resources in an environmentally sustainable manner.

As many of these challenges we face are controlled directly or indirectly by biological systems, our understanding of how these systems work will help us find solutions. All life forms that contribute to these systems are in turn controlled by genomes made out of DNA (the building blocks of life), and genomics will be a key enabling technology we need to master in order to harness the power of biology to help us remediate many of the sites whose ecology we've compromised.

Canada is recognized as a world leader in genomics thanks to sustained federal investments through Genome Canada – more than $1-billion since 2000, matched by co-investments in genomics programs and projects by provincial governments, the private sector, non-profits and international partners.

We have developed formidable research capacity in this relatively young science and are at the leading edge of translating genomics applications across a range of sectors of importance to Canadians – health, agriculture, forestry, fisheries and aquaculture, and, increasingly, environmental protection and sustainable resource development in the energy and mining sectors.

Because Canada stands to gain considerably from integrating genomics into use in society across sectors and because many in the world are looking to us as leaders in this field, there will be great interest in a major international conference Canada is hosting. It's called Genomics: The Power and the Promise. The conference is focused on genomics with applications to the environment, health and other sectors, and is a unique assembly. There are, of course, leading practitioners and thinkers in science. But this gathering is more – it's about inviting others in to see the potential of genomics and to seek guidance on its beneficial uses. So, there will also be policy-makers who grapple with society's challenges, business people who grow the economy, academics who consider the issues critically and those from non-profits who seek to ensure benefits are shared equitably. We need a broad discussion because the science of genomics has such a wide range of applications.

For example, Canadian researcher Paul Hebert, who leads the International Barcode of Life Project – the largest research program ever undertaken in biodiversity science – will talk about progress in creating a "bio-literate world," where every species can be identified in minutes. This is helping environmental stewards know whether a specimen is indigenous or an invader, at risk or in abundance. Is a fish fillet on sale in your local market from an endangered species or a healthy population, and is even the kind of fish it purports to be on the label? Genetic material tells the whole tale, arming us with accurate information and a tool for policy-makers to determine the best course of action for our society.

Canadian researchers are also working on genomics solutions for environmental and other challenges in Canada's non-renewable resource sectors. They are identifying microbial life that remediates polluted sites, accelerating the transformation of industrial sites to a natural state much more quickly and safely.

Others are exploring the role of genomics in safeguarding our forests and enhancing health care, the environment's impact on human health, and strategies for adapting to climate change.

There are few countries with as much to gain from genome science as Canada, because we have one of the largest, richest and most pristine environments on the planet. Our prosperity is linked to the health of our population, to resource development, to agriculture, to coastal industries. Understanding the nature of all life, through genomics, will make us better stewards of that environment and bring our society and economy in greater balance with those natural systems.

Sawdust - Fuel of the Future

Related

Your car may soon run on sawdust! Researchers have successfully converted sawdust into building blocks for petrol. Scientists at Katholieke Universiteit Leuven (KU Leuven) in Belgium used a new chemical process to convert the cellulose in sawdust into hydrocarbon chains. These hydrocarbons can be used as an additive in gasoline, or as a component in plastics, researchers said.

Cellulose is the main substance in plant matter and is present in all non-edible plant parts of wood, straw, grass, cotton and old paper. "At the molecular level, cellulose contains strong carbon chains. We sought to conserve these chains, but drop the oxygen bonded to them, which is undesirable in high-grade gasoline," said Professor Bert Sels.

The new method to derive these hydrocarbon chains from cellulose was developed by researcher Beau Op de Beeck.

"This is a new type of bio-refining, and we currently have a patent pending for it. We have also built a chemical reactor in our lab: we feed sawdust collected from a sawmill into the reactor and add a catalyst - a substance that sets off and speeds the chemical reaction," said Dr Bert Lagrain.

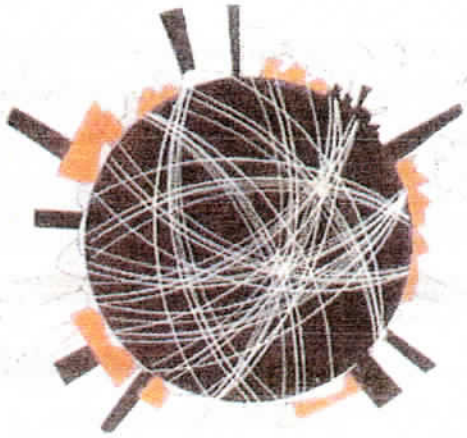
"With the right temperature and pressure, it takes about half a day to convert the cellulose in the wood shavings into saturated hydrocarbon chains, or alkanes," Lagrain said. "Essentially, the method allows us to make a 'petrochemical' product using biomass - thus bridging the worlds of bio-economics and petro chemistry," he added.

The result is an intermediary product that requires one last simple step to become fully-distilled gasoline, said Sels. "Our product offers an intermediate solution for as long as our automobiles run on liquid gasoline. It can be used as a green additive ? a replacement for a portion of traditionally-refined gasoline," Sels said.

"The green hydrocarbon can also be used in the production of ethylene, propylene and benzene - the building blocks for plastic, rubber, insulation foam, nylon, coatings and so forth," Sels added.

How carbon dioxide moves around the earth

WASHINGTON: An ultra-high-resolution NASA computer model has given scientists a stunning new look at how carbon dioxide in the atmosphere travels around the globe.



Plumes of carbon dioxide in the simulation swirl and shift as winds disperse the greenhouse gas away from its sources.

The simulation also illustrates differences in carbon dioxide levels in the northern and southern hemispheres and distinct swings in global carbon dioxide concentrations as the growth cycle of plants and trees changes with the seasons.

Scientists have made ground-based measurements of carbon dioxide for decades and in July NASA launched the Orbiting Carbon Observatory-2 (OCO-2) satellite to make global, space-based carbon observations.

But the simulation - the product of a new computer model that is among the highest-resolution ever created - is the first to show in such fine detail how carbon dioxide actually moves through the atmosphere.

"While the presence of carbon dioxide has dramatic global consequences, it's fascinating to see how local emission sources and weather systems produce gradients of its concentration on a very regional scale," said Bill Putman, lead scientist on the project from NASA's Goddard Space Flight Centre in Greenbelt, Maryland.

"Simulations like this, combined with data from observations, will help improve our understanding of both human emissions of carbon dioxide and natural fluxes across the globe," said Putman.

The carbon dioxide visualisation was produced by a computer model called GEOS-5, created by scientists at NASA Goddard's Global Modeling and Assimilation Office.

In the spring of 2014, for the first time in modern history, atmospheric carbon dioxide

the key driver of global warming - exceeded 400 parts per million across most of the northern hemisphere, NASA researchers said.

Prior to the Industrial Revolution, carbon dioxide concentrations were about 270 parts per million.

Concentrations of the greenhouse gas in the atmosphere continue to increase, driven primarily by the burning of fossil fuels.

Despite carbon dioxide's significance, much remains unknown about the pathways it takes from emission source to the atmosphere or carbon reservoirs such as oceans and forest.

Combined with satellite observations such as those from NASA's recently launched OCO-2, computer models will help scientists better understand the processes that drive carbon dioxide concentrations.

A Must Read for Anyone Under " 50 "

Checking out at the store, the young cashier suggested to the much older cu she should bring her own grocery bags, because plastic bags are not good for the environment.
The woman apologized to the young girl and explained, "We didn't have this 'green thing' back in my earlier days."

The young clerk responded, "That's our problem today. Your generation did not care enough to save our environment for future generations."

The older lady said that she was right -- our generation didn't have the "green thing" in its day. The older lady went on to explain:
Back then, we returned milk bottles, soda bottles and beer bottles to the store. The store sent them back to the plant to be washed and sterilized and refilled, so it could use the same bottles over and over. So they really were recycled. But we didn't have the "green thing" back in our day.

Grocery stores bagged our groceries in brown paper bags that we reused for numerous things. Most memorable besides household garbage bags was the use of brown paper bags as book covers for our school books. This was to ensure that public property (the books provided for our use by the school) was not defaced by our scribblings. Then we were able to personalize our books on the brown paper bags.
But, too bad we didn't do the "green thing" back then.
We walked up stairs because we didn't have an escalator in every store and office building. We walked to the grocery store and didn't climb into a 300-horsepower machine every time we had to go two blocks.

But she was right. We didn't have the "green thing" in our day.

Back then we washed the baby's diapers because we didn't have the throw away kind. We dried clothes on a line, not in an energy-gobbling machine burning up 220 volts. Wind and solar power really did dry our clothes back in our early days. Kids got hand-me-down clothes from their brothers or sisters, not always brand-new clothing.

But that young lady is right; we didn't have the "green thing" back in our day. Back then we had one TV, or radio, in the house -- not a TV in every room. And TV had a small screen the size of a handkerchief (remember them?), not a scre the size of the state of Montana. In the kitchen we blended and stirred by hand because we didn't have electric machines to do everything for us. When we packaged a fragile item to send in the mail, we used wadded up old newspapers cushion it, not Styrofoam or plastic bubble wrap. Back then, we didn't fire up an engine and burn gasoline just to cut the lawn. We used a push mower that ran c human power. We exercised by working so we didn't need to go to a health club run on treadmills that operate on electricity.

But she's right; we didn't have the "green thing" back then.

We drank from a fountain when we were thirsty instead of using a cup or a plasti bottle every time we had a drink of water. We refilled writing pens with ink instea buying a new pen, and we replaced the razor blade in a r azor instead of throwi away the whole razor just because the blade got dull.

But we didn't have the "green thing" back then.

Back then, people took the streetcar or a bus and kids rode their bikes to school walked instead of turning their moms into a 24-hour taxi service in the family's $45,000 SUV or van, which cost what a whole house did before the"green thing." had one electrical outlet in a room, not an entire bank of sockets to power a doz appliances. And we didn't need a computerized gadget to receive a signal beame from satellites 23,000 miles out in space in order to find the nearest burger joint.

But isn't it sad the current generation laments how wasteful we old folks were jus because we didn't have the "green thing" back then?

Please forward this on to another selfish old person who needs a lesson in conservation from a smart ass young person.

We don't like being old in the first place, so it doesn't take much to piss us off... Especially from a tattooed, multiple pierced smartass who can't make change wit the cash register telling them how much.

Woody Harrelson Says Making Paper from Trees Is 'Barbaric' — Is It?

In the pulp and paper industry there appears to be a renewed interest in "alternative fibers" for use in paper. One recent article on this subject included a photo of Woody Harrelson (actor) with a caption that proclaimed "*making paper from trees is barbaric.*" With respect to Mr. Harrelson, I believe he has either been misquoted or is misinformed. To help advance this dialog I want to first clarify some terminology.

The term "tree free" paper is used for two different categories of products: synthetic "*papers*" and real papers made from sources other than trees.

On the one hand we have synthetic materials that are not made of fibers at all. They are printing substrates that look like paper – they are thin and white. And in some ways act like paper – they are flexible and you can print on them. But in most cases this group of products is actually pigmented polymer films or non-woven materials. In other words, they are not paper at all – they are made of plastic (the vast majority of which is derived from fossil fuels). In some applications (e.g. waterproof maps or outdoor signage) these might be the ideal substrates, but to call them paper products is somewhat confusing to say the least.

Beyond the synthetics, there are fibers not derived from trees that can be used to make paper. Generally speaking the alternative fiber category includes sources that are grown for fiber (like cotton or bamboo). There are also tree free sources that are derived as by-products from other processes – typically agricultural residues. For example bagasse is a by-product of sugar cane processing – and Mr. Harrelson's passion reportedly lies in pursuing paper that is "*currently **made in India** with 80 per cent waste wheat straw and 20 per cent wood fibers*".

In both cases – synthetics and alternative fibers – they are indeed "tree free" products, but I have yet to see any evidence that these products may have any environmental benefits over using wood. On the contrary – the evidence I have seen leads me to conclude quite the opposite.

There are many arguments to be made about the values and benefits of sustainably managed forests. If anyone has Mr. Harrelson's contact information, please send him a link to our eQ Journal Volume 4. And I would be delighted to speak to him about efforts aimed at salvaging wood after a major wind event in the Lake States. Of course, beyond the forest, one must take a look at the environmental impacts associated with the manufacturing process.

The crux of the challenge faced by the paper industry is to develop a pulping process that can compete both economically and environmentally with wood pulping. This is a significant challenge that has been investigated for many, many years. Thus far, we have yet to find that magic bullet. With wood, we have a process where the chemicals are used and then recaptured, reprocessed and reused. Essentially a chemical recycling process within our pulp mills which creates advantages both environmentally and economically.

But with non-wood fibers, because of the composition of reedy plants the chemical recovery process cannot be closed the same way. It is possible to make pulp from these sources, but the environmental impact is greater.

It is not just industry experts that understand this challenge. The Chinese government has had a concerted effort underway for several years to close down mills that are not meeting environmental restrictions. Between 2005-2009 they established a modernization program that reportedly eliminated nearly 7 million tons/yr of pulp and paper capacity. Over half of these closures (measured in terms of volume) were targeted at non-wood pulp and paper mills. China's strategy aims to use more efficient wood based and recycled fiber sources.

Today, the vast majority of non-wood fiber is made in China and India. And most of that fiber is consumed where it is produced. If a North American mill wants to import non-wood fiber, bamboo and bagasse sell for roughly twice the cost of market kraft pulp. Flax is about 6 times the cost. The availability of these sources is on the decline.

Again, with all due respect Mr. Harrelson, making paper from trees is far from barbaric – it makes good sense both environmentally and economically.

The Bio-Economy: An Exciting Future for the Forest Products Industry

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The future of the forest products industry will be all about the likes of nano-technology and the bio-economy. Along with traditional wood, pulp and paper, renewable wood fibre is being used in a wide variety of bio-products including green energy and bio-chemicals. Catherine Cobden, has helped shape the transformation of the industry from her perch as executive vice-president at FPAC and as a board member of FPInnovations. Catherine was instrumental in the ground-breaking bio-pathways studies led by FPAC and she continues to work with academic researchers and others to encourage innovation in the sector. Read below for Catherine's views and comments on the importance of the bio-economy to Canada's forest products industry. – ***David Lindsay, President and CEO, FPAC***

by Catherine Cobden, Executive Vice-President, FPAC

As we enter 2015, there is little doubt that you will be hearing more and more about the bio-economy. Broadly speaking it refers to the conversion of renewable resources into food, bio-based products and bioenergy via innovative technologies. The potential is vast, in the hundreds of billions of dollars economically and a way to green our environment by replacing products with a heavier carbon footprint.

In December, Canada held its first bio-economy conference in Toronto which attracted representatives from the energy, agriculture, forest, automotive, and chemical sectors as well as technology suppliers and government decision-makers from both the federal and provincial level. The conference covered a broad range of topics from global trends and advancements in biofuels to new innovations in bio-chemicals. Much of the conference focused on projects using agricultural raw materials.

However I was pleased to moderate a panel profiling the bio-economy potential of the Canadian forest industry using residual wood fibre as the raw material.
As part of its Vision2020, the forest industry is on a mission to extract more value from the Canadian forest resource. This journey is well underway and the panel was a great opportunity to demonstrate this momentum.

Jean Francois Levasseur, on behalf of the Canadian Forest Service (CFS), presented the results of the first round of the exciting "Investments in Forest Industry Transformation" (IFIT) program and provided a peak into widespread interest in the next round of the program. The second wave of IFIT has generated interest in an impressive range of transformation projects from bioenergy, to biomaterials, to bio-chemicals as well as solid wood, worth close to $2B across the country. CFS also reported that the level of detail of the project submissions and the sophistication in partnerships have improved tremendously since the program was first launched back in 2010. That leads to an obvious conclusion—that forest company interest and expertise in the bio-economy is growing significantly.

The conference heard from specific examples of Canadian advances using wood fibre. Performance Biofilaments is a joint venture launched in June of 2014 between Mercer International and Resolute Forest Products—two traditional forest product companies creating the future for the forest sector together. The managing director, Gurminder Minhas, says the company is seeking high value applications for cellulose filaments (CF), one of the world's most exciting new bio-materials. CF improves the strength, flexibility and longevity of a variety of materials including composites, coatings and consumer product, including automotive and construction materials.

West Fraser Timber is also pursuing a wide array of bio-projects from lignin to resin applications to activated carbon to a name a few. The Manager of Energy and Bio-product Development, Rod Albers, explained that West Fraser does not just want to be a supplier of raw material but is looking at new innovative products to create additional value for the company. He also said the forest industry is looking to pursue new business opportunities with viable partners who have solid well-researched proposals.

The bio-economy conference helped highlight the significant contribution that the forest sector represents in the evolving bio-economy. As a renewable resource that will be there for future generations, the traditional forest sector is confidently on the move creating a next generation industry.

U.S. Drought

California is going through a historic drought that some experts say "could last a decade or more". What if the state had gotten into extreme water conservation habits, especially in its agricultural sector, which uses more water than anything else, back when water was plentiful? Do we really have to wait until the situation is dire before we scramble to try to change things (sometimes too late?).

Sometimes what matters most is the mindset. Conserving water, even when it is plentiful, probably makes you a lot more likely to also be efficient with electricity, gasoline, and other resources.

Where I live in Canada, fresh water is so plentiful that residential buildings don't even have water meters. You pay a fixed amount each month for water regardless of whether you using 10x more than average or 0.1x as much as your neighbors. This is absolutely bonkers, not because I think we'll run out of water, but because it encourages a wasteful mindset -- it punishes those who save by making them pay for those who waste (building and operating water treatment plants and sewer systems still costs a lot of money).

My Woodlot

Arnold and Kathy Oberg

Spring has arrived and we are privileged to have a front row seat overlooking the Pembina River, 130 km SW of Edmonton, to observe the changes taking place. We are situated right on the border of the agriculture and green zones. We are in the far western portion of Parkland County, 20 km southwest of Entwistle, but look out our window across the river to virgin boreal forest on crown land located in Yellowhead County.
We are always delighted in March when the first Canada goose shows up, usually alone, to scout out potential nesting areas. Before long there are pairs of geese, then small flocks, flying around with much honking. We are not bothered by the noise in the least. There was still no open water yet in March, the river doesn't break up until mid April. When the river starts opening up, a bit early on April 11 this year, pairs of geese stake out their territory along the banks. Now that they are nesting the geese have gone mostly silent. Soon they will appear with their babies, little yellow balls of fluff. It is amazing to see how fast they grow.
The red wing black birds are the champion noisemakers now. We love the racket they make this time of year but they too get quieter as the season progresses. The sandhill cranes are back. They are more often heard or seen flying overhead. Some time ago the pine grosbeaks, which had been here all winter, left and now we have the evening grosbeaks at the feeder. The purple finches are back too. We are still waiting for the first swallows and blue birds to arrive. We occasionally see swans here and had a pair of pelicans feeding along the banks once. We also get visits from eagles, kingfishers and red tail hawks. We had a visit from a Baltimore oriel last year and this year, for the first time ever, we have seen both a western tanager and a yellow headed blackbird. We will have to wait and see if they are transient or are going to stick around.
We have been getting daily visits from a small heard of mule deer that hang around all year. We don't hunt and they have become quite tame. They like to eat our trees and clean up sunflower seeds under the bird feeder.
Beaver are common and we occasionally see river otter.
We have a resident heard of white tail deer and there is usually a moose or two hanging around. There is a herd of elk in the area but for some reason they don't show up on our place very often.
We have observed wolves, bear, and even a cougar once, from our window.

We started investing in woodlots in the early eighties. An accountant would probably take exception to the term "investing" as far as woodlots are concerned but we wanted to get out of town and preserve a bit of woodlands for ourselves. At the time it was too common to see large swaths of timber being bulldozed to create fields for raising cattle. We found a quarter section in the west end of Wetaskiwin County located ten miles as the crow flies south of Drayton Valley where we were living. It had about 70 acres that had been cleared, but then allowed to grow back to bush. It also is located next to crown land. There was a good stand of straight white spruce and the rest was mixed younger forest. It had a "fixer upper" house that needed finishing but was well constructed by the previous owners of white poplar that had been milled onsite. It also had what I like to call p___ off the porch privacy.

We recleared the brush and fenced the quarter and started raising cattle. We opened up old trails for hiking and backcountry skiing. These are still cross country skis but wider and the trails are not groomed, sort of like long snowshoes.
We didn't (and still haven't) barely touched the timber. Over the years we have had timber buyers cold call us to purchase the timber but always turned them down regardless of the price. For various reasons timber prices seam to spike for brief periods then go back down. It has been quite awhile now since we have been approached but I think the time has come to log some of the timber if the price was right.
We got rid of the cattle quite a few years ago but could get back into them with a small investment in infrastructure if ever we so choose.
Over the years we renovated the house as we could afford to do so. We subdivided off the house and shop and sold it to our son who still lives there.
We purchased our Pembina property where we are now living in 2002. It totals 450 acres with about half forested. I have developed a trail system here too. It is getting to be quite a chore to maintain but the trails are well used. In the winter I get out skiing most days and put on many miles and in the summer I hike.
I am in the process of putting up 50 cords of firewood. I enjoy the work. Not very lucrative but I don't need a gym membership. The trees are mostly aspen that were harvested off of a power line right of way that partially crosses our property. We had three truckloads hauled in. I had hoped to mill the larger trees into lumber but after they were logged it became apparent that they weren't healthy. Perfect for firewood though.
I started out splitting wood with a homemade splitter that ran off the tractor hydraulics. It does OK but I figured 65 HP on a splitter was overkill. I next started using a 5 ton electric splitter that I got on sale at Princess Auto. It is nice and quiet and never had any problem splitting anything. I bought the stand for it after which puts it at a more comfortable working height. The downside is that it will only split up to 20" and, of course, needs a source of power.
My newest splitter is a Canadian made Wallenstein rated at 20t. It has a Honda engine and a 2 stage hydraulic pump. It came with a 4-way splitter and is the tall version which is comparable in height to the electric splitter. I opted to get the model that only splits in the horizontal position. The models that split both horizontal and vertical are not balanced as well making them harder to move around by hand. The splitting height in the horizontal position on the convertible models is also lower.
I plan on processing and piling the wood before I attempt to market it.

A woodlot does not need to generate much cash flow on a yearly basis to be a good store of value; land values continue rise and the trees continue to grow and you are not taxed until you sell.

Our desire is to pass the woodlot on to the next generation better than we found it.

Pictures of - Arnold and Kathy Oberg's - Woodlot

The New Forest

Pembina River

Clearing Trails

Early Winter Ski Trail