THE LOG JAM

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Rebirth of the Woodlot

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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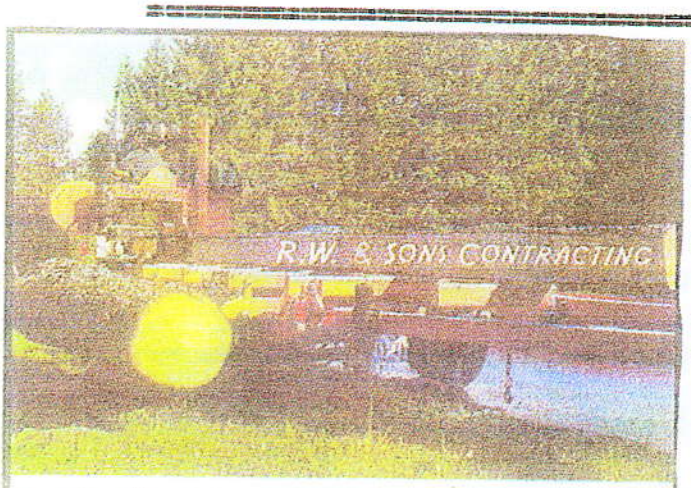

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To do this contact board member ***Harry Krawchuk*** at **780-322-3822** who is co-ordinating this project.

Strait mill may test innovative uses of wood

The spectrum of items derived from wood fibre could one day include high-value products like renewable plastics and tires.

Technology is being developed and tested that could convert wood to biochemical products that include carbon black, which is used in the tire industry, and non-food sugars, which can be used to make plastic.

Plans are underway to set up a test refinery at the **Port Hawkesbury Paper LLC** mill. It would be used to extract the sugars from wood chips to potentially make a range of products.

The mill, which produces super-calendered paper for catalogues and magazines, has partnered with **FPInnovations** to undertake an engineering study to evaluate how the mill can use its existing assets to build the test sugar production facility.

That test site could eventually make way for a full-fledged production facility, said Marc Dube, the Point Tupper mill's development manager.

"The technologies are new; they've been done in different levels, but certainly not at the level of the demo plant that we're talking about," he said.

"At the demo plant, we would be able to test different theories and different ideas and come up with new ways to make the process work best."

That is one of eight projects that FPInnovations, a Montreal non-profit organization, is looking at across Nova Scotia that could transform the provincial forestry industry by finding new products and production processes, reducing costs and competing globally.

The province announced a partnership with FPInnovations on Friday that will include a $1.1-million investment in the initiatives.

"Forestry has changed internationally with new markets, new technologies and new products, so we must be innovative to remain competitive," Natural Resources Minister Zach Churchill said in a news release.

The projects being studied include how to improve the productivity of the trucking industry without damaging infrastructure, improving the yield at hardwood sawmills and biomass drying trials.

"When you have a commodity, you're in a very competitive type of environment and type of market, so you really need to improve the quality of the products and reduce your costs," said Jean-Pierre Martel, vice-president of strategic partnerships at FPInnovations.

"But at the same time, I think what we're looking at as well is working with some of our key players and potentially new players on how we can develop new products that will come out of forest fibre."

Dube said the wood chip-to-sugar project is important to ensuring the mill's long-term future. "Certainly for our mill and our employees and our ownership, this is one of the areas that we're focusing our efforts to," he said.

"We want to make sure that there's opportunities to create new revenue sources on our mill site so that it will give stability to the papermaking process. Certainly, over time, as less paper is being used, in the longer term it'll be an important part of making sure that the whole site is sustainable."

Dube said the mill's owner, **Pacific West Commercial Corp.**, an affiliate of **Stern Partners Inc.** of Vancouver, is looking to build the test facility within the next 18 months.

"That's our goal. We want it to happen quickly."

They must hunger in frost that will not work in heat.

President's Report

Laval Bergeron

Since the last Log Jam, which I did not report on, the committee has held all of its regular meetings on time. The WAA has participated in several activities including tours of private woodlots and woodlot operators and the Farm & Ranch Show in Edmonton. The later was a special event for Monique and I in that I never thought I would be on that side of the table at a farm show. We had the chance to meet very interesting people with great ideas. Even with Kubota in front of us, UFA to the right and a grain bagger to the left, I still feel we had the better booth. A big thank you to Herb for getting the WAA into the show. We had a good turnout for Jurgen's tour in Whitecourt and all present enjoyed themselves. Just recently, we partook in the tour organized by Larry and Chris which took us from Beaverlodge to Elmsworth. Great stuff! I even got to prove myself a hero during the outing. After all this time spent on tours through forests, I will make a bold statement and claim that we will not have a tent caterpillar invasion this year. Looks like we are in the clear for a few years.

As woodlot owners and enthusiasts, you are well aware of the multitude of wildlife you share your land with. Our most interesting encounters over the past years have been with wolves. Our last happenstance was even a little scary. We gained many insights on the livelihood of wolves at the course entitled 'Thinking like a wolf', which was recently held in Whitecourt. We hope to better understand our neighbours and continue to co-exist for many years to come.

If you are looking for an interesting read sipping a coffee this summer, look up ALUS (Alternative Land Use Services) online (www.alus.ca). Municipalities are starting to jump on board; yours might be one of them. Wetlands are a hot topic both from a woodlot and farming perspective. As farmers around us busy themselves filling in sloughs and clearing what shelterbelts are left, this alternative seems very timely.

As you know by my first president's report, I am a grain farmer. Seeding is now over and the crop is off to a great start. Rain has blessed us with a regular show of presence and even with many cool nights, both weeds and grain are off to the races. As you look around the fields, you will see sprayers buzzing around – always a good idea to stay upwind.

I wish everyone a nice, long summer on your woodlots!

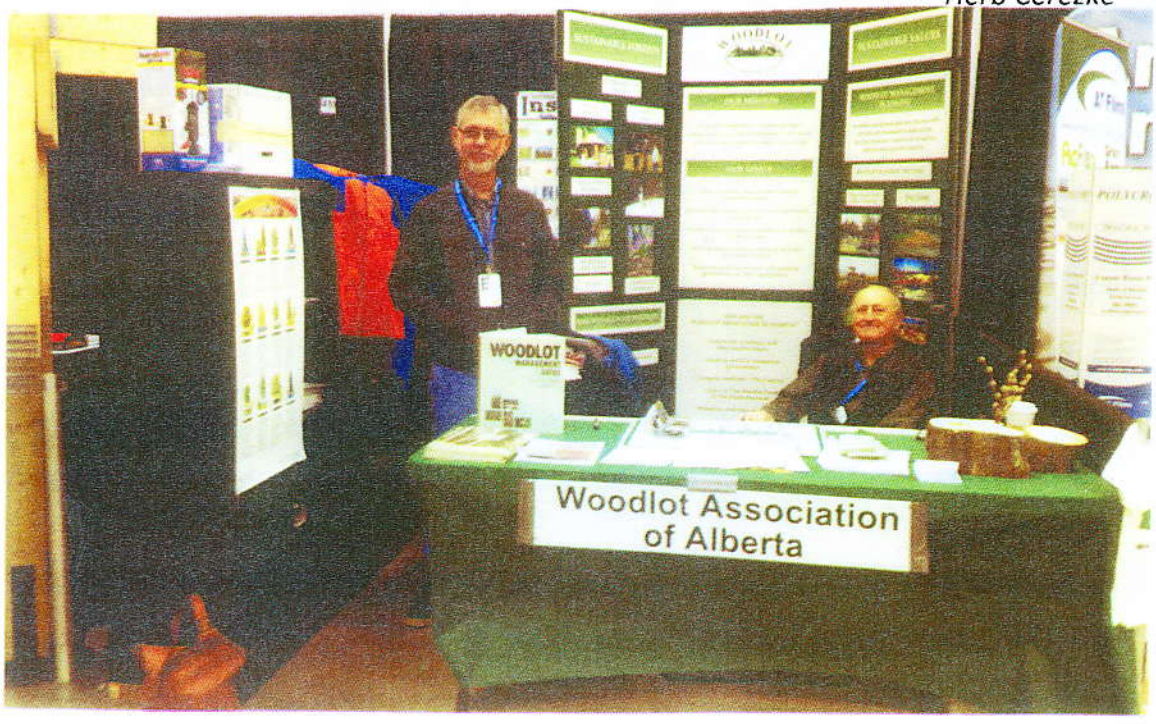
WAA PARTICIPATES AT FARM AND RANCH SHOW IN EDMONTON

The Woodlot Association of Alberta (WAA) rented a booth at the recent Farm and Ranch Show event held at Northland Expo Centre in Edmonton on March 27 to 29. The three day event, which opened from 10 am to 6 pm each day, provided the opportunity to meet and engage with a broad spectrum of visitors whose interests were representative of both urban and rural environments in the province. Our main objectives for participating in the Farm and Ranch Show were to display, advertise, promote and inform what the WAA stands for as a non-profit organization established by woodlot owners. Among the goals of the WAA, we strive to inform and educate the general public about the inherent values of private woodlots and forests and to promote their management in an environmentally and sustainable manner.

At our booth, we displayed a pictorial view of the many functions that a woodlot may serve for its owners such as in providing various wood products, enhanced wildlife habitat, increased plant and animal biodiversity, recreation and relaxation, and other agroforestry interests. During its tenure, the WAA has developed a comprehensive woodlot management guide (*Woodlot Management Guide for the Prairie Provinces*) and various brochures that offer contact information to facilitate education and training of members in woodlot-related activities. During the three-day event, over 150 brochures and personal contacts were made with the visitors who stopped by our booth. As an extra attractant to our booth, we held two gift draws; a heavy durable rain suit and a "Squirrel Buster" bird feeder. The rain suit was kindly donated by Timberland Supply Inc. in Edmonton, for which we express our sincere thanks.

Participants at the booth representing the WAA included Laval and Monique Bergeron, Louise Horstman, Bernice Cassady and Herb Cerezke. We express our sincere thanks to all those who stopped by our booth. We were pleased with the many responses and inquiries about woodlots, and extend our thanks especially to the several woodlot owners who expressed their keen interest, knowledge and perceived high value of sustainable woodlot management.

Herb Cerezke



West Country Woodlot Tour *June 7 & 8, 2014*

Larry Nofziger

A virtual group of 29 people met at the Big Beaver in Beaverlodge, AB on Sat. at 9am. The women went for a brief shopping tour of the Beaverlodge Cultural Centre before we all drove to the PRT nursery located on the south end of town for a guided tour of the facilities.

A pneumatic seeder was demonstrated along with explanations of seed species, plant medium, and packaging. In the adjacent greenhouses, a sea of green needles displayed over 6 million white spruce and lodgepole pine that are given water laden with nutrients in preparation for summer planting. PRT manager, Patrick, and his helper, answered questions from participants. Three boxes of hybrid poplars were donated by Ainsworth to any members wanting to enhance shelter belts on their own woodlots.

The nursery tour concluded with a brief downpour which had everyone hurrying to their vehicles for shelter. Participants then drove south on Hwy. 722 to Hinton Trail Hall which is surrounded by a hybrid poplar plantation owned by Garry Wilkinson and his partner. This is also the site of Woodworth Lumber. Garry is presently logging on a private cut block 12 miles west of the Woodworth Lumber and Hinton Trail Hall site. The group was invited to tour this cut block and see Garry's custom built circular sawmill in action. He is sawing poplar into pipeline skids, (4 x 6 x 46) and also 3 x 10 planks up to 20 ft that are used in the oilfield.

Returning to the Hinton Trail Hall we enjoyed a barbecue and listened to a presentation by forester, Vashti Dunham, on the environmental and social values of woodlots. Her informative talk was the final event of the day. Several WAA members stayed overnight at Chris and Larry Nofziger's home and on Sunday spent several hours walking through the woodlot on their home 1/4 section. We saw pine and spruce that were planted in 2009 and 2010 as part of the WAA planting program. Next we drove to the west end of their 1/2 section woodlot to see the mill yard with the 48" head saw, then to the east end to see the rainbow trout in the pond.

The tour concluded with another barbecue at noon, but several people were convinced to stay around for the afternoon to help Larry celebrate his 65th birthday. Garry Wilkinson is part of a recently formed band, and they came and treated us to a mini concert before the birthday cake was served.

Those who attended the tour

Whitecourt Woodlot Tour

On June 13 I held a tour of my woodlot, the tour consisted of a walk through the woodlot. The purpose was to demonstrate some of the improvements made through thinning stands in removing damaged trees and spacing trees for increased growth. We also viewed a Christmas Tree plantation, the 2013 fire adjacent to my woodlot, a mono spruce stand caused by grazing sheep in it that killed all deciduous trees, natural regeneration in a logged area and an area flooded by beaver in the past. I believe that the tour was interesting, but was poorly attended and I had hoped for a few more people Perhaps I have had the tour to often and should not have an other one for some time.

New status for Whitebark Pine

Whitebark and limber pine were both designated as Endangered in Alberta under the *Wildlife Act* on September 9, 2009. The listing was based on the on-going and projected decline of both species due to the introduced white pine blister rust and native mountain pine beetle epidemic. A provincial recovery plan for both species is in progress and there are various conservation activities occurring among agencies, managers, researchers and citizens across the species' range in Alberta.

On June 20, 2012, whitebark pine was added as Endangered to Schedule 1 of the federal *Species at Risk Act*. The development of a federal recovery strategy, led by the Canadian Wildlife Service in Vancouver and in collaboration with Parks Canada, will be initiated. Federal planning will be in coordination with Alberta and British Columbia.

It is anticipated that limber pine will be nominated to the Committee on the Status of Endangered Wildlife in Canada (COSEWIC) for Endangered listing in the foreseeable future.

If you are going to let fear of poverty govern your life, your reward will be that you will eat, but you will not live

George Bernard Shaw

Deadwood brings forest alive

Over the course of his forestry career, my father, a forest technician, woodlot owner, silviculture and harvesting contractor, has come full circle in his approach to dead and dying trees.

Once considered a nuisance, he now sees deadwood as an essential component of a healthy forest ecosystem.

A graduate of the Maritime Forest Ranger School in 1976, Dad began his career in silviculture as an early proponent of the industrial agro-forestry approach of the day.

Forests then were managed almost exclusively for softwood fibre production. Trees were "farmed" on short rotations. Deadwood, in the form of logging debris and standing and fallen dead trees, was seen as a nuisance, even a threat to the next softwood "crop."

On a site on our family woodlot that today hosts a 30-year old Norway spruce plantation, Dad recalls piling and burning the tops, branches and fallen dead trees that remained after harvesting to make tree planting easier. As a youngster, I remember dragging pruned tree branches to be burned in order to leave behind a "tidy" forest floor, free of any brush.

During a long series of federal-provincial subsidy agreements that supported early industrial forestry expansion, one publicly funded silviculture treatment was specifically aimed at removing deadwood. Small crews were sent meandering through recent clearcuts to cut down "rampikes," a term then used to describe standing dead trees.

This was done to make it safer for a helicopter to spray the herbicide that knocked back any naturally occurring hardwood regrowth interfering with industry-favoured softwood seedlings.

My dad's esthetic view of forests did not favour deadwood either. Dad preferred a "clean" forest, one clear of dead trees and untidy brush strewn haphazardly about. He favoured a more park-like setting, with evenly spaced trees and vertical lines that some say appealed to the human eye.

Perhaps the appeal of this park-like setting is linked to our ancestral instincts, to a time when such a forest setting gave our ancestors the best chance to see and avoid predators.

Over time, Dad's industrial approach gradually gave way to a more holistic view of forests and forest management. He began to see dead trees as important sources of soil nutrients, as food and habitat for a huge variety of wildlife. In areas of our family's land where we once removed deadwood, we now actively restore it to more natural levels.

His own shift is indicative of a larger movement toward a more balanced approach to forest management, including the importance of managing for deadwood.

No such thing as "waste wood."

Deadwood has long been considered as "waste wood" with no true value. Nothing could be further from the truth. Deadwood is the life of a forest. Reducing levels of deadwood in forests can reduce soil nutrients, soil organic matter, forest productivity, wildlife habitat and forest carbon storage.

Many wildlife species that call the forest home need deadwood. At least one-quarter of wildlife species in the Acadian forest depend on woody debris or dead or dying trees for habitat.

In Europe, harvesting dead and decaying wood to feed bioenergy markets caused the decline of numerous endangered species there. Species associated with deadwood now make up the largest group of threatened species in Europe. Sweden alone has 800 species that depend on deadwood on their list of threatened and endangered species.

In Nova Scotia, threats to deadwood are mounting as the province's biomass energy industry expands. Feeding the newly commissioned Point Tupper biomass plant has driven forest harvesting practices to new lows by driving market demand for biomass-grade fibre to new heights. Europe is hungry for Canadian wood fibre and the demand for biomass is expected to continue to grow.

The province needs to development a comprehensive suite of tools to prohibit the removal of tops and branches during timber harvesting and to ensure that forests have adequate amounts of standing and fallen dead and decaying wood. The Nova Scotia government has been poised to take steps to address this problem for almost three years now, but no concrete steps have been taken.

Leaving behind enough deadwood doesn't cost a lot, especially given the paltry price offered for biomass-grade wood.

The payoff for landowners and forest managers is increased forest ecosystem stability and resiliency.

Like many woodlot owners, one of my Dad's main goals for his woodlot is to leave behind a forest that is healthier than the one he started with.

With more productive soils and more diverse and abundant wildlife, his woodlot legacy has certainly benefited from his new approach to deadwood.

TOO ABUNDANT TO DISAPPEAR? NOT QUITE: THE LESSONS OF THE PASSENGER PIGEON

During the mid-19th century, the passenger pigeon was the most abundant bird species in North America, if not the world, with a population believed to number in the billions.

Traveling in formations that might be impossible to imagine today, the bird was ubiquitous across New England, the Midwest and parts of Canada, darkening the skies over major cities and sometimes halting human activity in its tracks with the roar of hundreds of millions of flapping wings, says author Joel Greenberg, author of the new book *A Feathered River Across the Sky: The Passenger Pigeon's Flight to Extinction*. In 1860, a British soldier in Ontario recorded a flock whose passage overhead lasted 14 hours.

"Forty years later, they were gone from the wild. Fourteen years after that they were gone from the planet," Greenberg told an audience at Kroon Hall Wednesday night. "And they were gone because we destroyed them. We systematically, unrelentingly killed them."

Greenberg was in New Haven as part of an initiative called Project Passenger Pigeon, which is using the 100th anniversary of the bird's demise to call attention to the importance of conservation. In a discussion that was part ornithology lesson and part cultural history, he used a slideshow of historical images to illustrate how a bird that was once so common could disappear from the landscape so quickly. The event was sponsored by the Connecticut Audubon Society and F&ES.

Prized for its meat, the passenger pigeon was also easy to kill. Hunters developed innovative methods to kill hundreds, even thousands, of birds at a time, such as burning sulfur to asphyxiate them as they nested or using "stool pigeons" to lure them into nets. Many birds, however, were simply shot.

Because the bird's populations had been so enormous, Greenberg said, most people assumed it was simply impossible for the passenger pigeon to ever become extinct. But as new technologies opened up national markets for the birds' meat, and the loss of forests and wetlands deprived them of their habitat, their populations collapsed.

"We have to be vigilant," Greenberg said. "If something as abundant as the passenger pigeon can be wiped out in four decades, something much less abundant can be wiped out like that."

Ultimately, he said, the loss of the passenger pigeon was a critical event in propelling the first conservation movement of the early 20th century. Indeed, in some states there were attempts to save the bird before it disappeared. In New York, laws limited where they could be hunted. And in Michigan, lawmakers banned the killing of passenger pigeons altogether.

"That's the good news," Greenberg told the crowd. "The bad news? That was in 1897 and there weren't any left."

Fifty years ago naturalists in Southern Ontario reflected on the disappearance of the Passenger Pigeon and I wrote away and ordered the beautiful Audubon prints on offer for the occasion. When I got them I realized they were all painted from that days bagged game. It helped me understood something about the complexity of conservation for the human species.
We are today's passenger pigeon. Numbered in the billions and entangled with the earth systems we depend on for our well being, we are ensuring our own demise. As our collective progress towards greater personal well being degrades the soil and changes land use, contaminates the water and the air, changes the climate, as our artificial loading of the nitrogen and phosphorous cycles eutrophy lakes and rivers, as toxic chemicals permeates the environment, and our aerosol

emissions block sunlight, as our CO2 acidificies the oceans, and our plastic and garbage gradually so permeate its waters with plastic garbage we cannot easily differentiate debris from a crashed plane we erode the possibility of a future for our billions.

While I am working on the building an ecological civilization through specific solutions to all of these problems, I drive a car (an inefficient hybrid), fly to visit our projects and people and to negotiate and problem solve or attend conferences and live and work in the warmth and comfort of our cheap foods and petrochemical life style.

It is hard to put down tbe gun of increasing convenience like this smart phone on which i am texting, and let the local community of patient advocates and scientists correct each local problem? A murmur of passenger pigeons must hsve been fasciating to watch as the ebb and flow in an evident collective conciouness but without seeming individual leadership. None of us within the even more complex memes of collective and individual behavior can sometimes see what changes homo sapiens suddenly, that supercooperative unique eusocial species whose individual members like to pretend they are part of homo economis because we each fly our uniquely specialized path. Luckily we still all define ourselves by how we relate and contribute to each other and at any time this human flock could suddenly in inexplicable unison turn away from its collective demise. Or not.

It is endlessly fascinating.

City songbirds linked to northern forest, need protection

Environmentalists are trying to connect the dots between the songbirds city-dwellers enjoy at backyard feeders and the need for extensive conservation areas in Canada's boreal forest.

Two international conservation groups have concluded that protecting the breeding grounds of waxwings, warblers and woodpeckers will mean preserving at least half the vast, untouched forest that stretches across the northern end of most provinces.

"Once people hear the story, they're quite captivated by it," said Jeff Wells of the Boreal Songbird Initiative, one of the sponsors of a report released Sunday.

"The idea that this bird in your backyard, especially in a big city, is actually going to go from this urban environment to one of the last big wilderness areas left on Earth, is kind of a cool idea."

That message is gaining traction among people who aren't normally associated with the environmental movement, said Kevin Smith of Ducks Unlimited, the other sponsor.

"As hunters, a lot of the birds they like to hunt and eat, large portions of their populations breed and moult and stage in the boreal," he said. "By conserving those habitats, we're ensuring for our constituency that these birds are flying and there for recreational use through generations."

Environmentalists have proposed ambitious conservation goals for the boreal forest before.

But the new research on 300 species of songbirds that nest in the boreal adds weight to the preservation target of 50 per cent, or about 300,000 hectares, of forest between Yukon and Newfoundland and Labrador, Wells said. Unlike seabirds, songbirds don't nest in concentrated colonies and need large, undisturbed areas to keep their numbers up.

"They'll occur in much lower densities over a much broader area," he said. "So if you want to get an area that contains a significant portion of the breeding population, it has to be a very large area."

Between one billion and three billion songbirds are estimated to migrate between the boreal and their winter ranges throughout North and South America, the report says.

Currently, about 70 per cent of the area is untouched and pristine. That gives Canada a unique chance to balance economic development and conservation before conflicts arise, suggested Smith.

"Instead of many other places in the world, where you're managing for endangered species, we have the

unique ability to manage for abundance and to preserve some of the great values that the boreal forest provides, along with extracting those resources," he said.

"It's a balance of protection and sustainable development. One of the main things we need to have is healthy northern communities."

The goal of protecting 50 per cent of the forest will be a challenge, Wells admits. Only about 12 per cent of the boreal is under some form of conservation agreement right now.

"It's something that is going to take decades," he said.

Why I am planting a tree this year:

Robert Wisla

The birds have started to chirp and the snow's blanket has begun to fade away. Old man winter is packing his bags and going back on holiday until next year. So with the days growing longer and the sun staying out longer, Spring has finally come. The melted snow has left the freshly thawed ground ready for seeding, and this year I plan on planting something I haven't planted ever before - a tree. Now you may ask yourself why I have chosen to plant a tree this year and the reason is because of the Woodlot Association of Alberta (WAA) and its vice president, my grandfather, Jurgen Moll.

The work the WAA has done to create a sustainable, eco-friendly industry is really inspiring. Many young people my age are really concerned about climate change and the adverse effects it has on rising sea levels, sinking entire nations (Kiribati) and polluting our rivers and air. The forests are a rich resource, but we need sustainable methods of extracting its wealth. The guiding principles of the WAA provide a shining light for the entire forest industry!

Tending the growth of trees, making sure they grow tall and strong, providing a healthy home for forest animals, is just pure awesome. My grandfather's woodlot is a place of uncompromising beauty. Every year since I was a small child I've come back and seen how the trees have grown ever so larger and the birds happier. Every year when my grandfather sells Christmas trees he gets to see the children's faces light up as the families pick out their tree together. I'm positive if the children knew that the woodlot they were buying the tree from was helping to save the world, the joy they would feel would double. So that's why I am planting a tree. Because the WAA and the sustainable practices it upholds has inspired me do so. In this small way, I can also help save the world, just like all the woodlot owners.

China replanting forests to fight pollution

It's no secret that China's rapid industrial and economic expansion in the past decade has taken a toll on its environment — not completely dissimilar to what was seen in Europe during the Industrial Revolution during the West's own modernization, albeit at a faster pace and on a larger scale.

One of the often-overlooked aspects of the environmental degradation is the issue of deforestation. But as Beijing increasingly focuses its attention on a cleaner environment to placate the public, officials are also now more keenly aware of the well-being of China's forests. And these officials want the West to be equally aware of Beijing's efforts to reforest the country during the past decade.

Last month, the country's State Forestry Administration issued its latest review of China's forest inventory. Cutting through the political language in the report, the raw numbers illustrate that China's efforts to plant new trees appears to have already brought some sizable results.

According to the report, China's forests currently cover 21.6 per cent of the country's landmass, a total of 208 million hectares. Reuters reported that in the last five years China has planted 13 million hectares of new forests. That is roughly the same area as Greece — or about four times the size of Vancouver Island.

The report also states China is committed to increasing forest cover to more than 23 per cent of its territory, in accordance to a promise made at a United Nations climate change summit in 2009. That process, officials say, in currently 60 per cent complete.

Reuters reported that some experts have concerns regarding the specifics of the reforestation program, namely that the focus on new forests being the driver of the growth outlined in the state agency's report.

Reuters quoted a professor at the Kunming Institute of Botany as saying the plantation forests may be planted with species that bring economic benefits (such as rubber or fruits), without considering what works best with the local ecosystem.

Regardless, the sheer number of trees being planted is staggering, with an environmental impact to match: Beijing now estimates China's forests will be able to store 8.43 billion tonnes of carbon emissions and conserve up to 580.7 billion cubic metres of water — in addition to absorbing 38 million tonnes of "pollutants" per year.

The forestry narrative is just the latest in a string of announcements from Beijing targeting what many believe to be one of the most important issues facing Chinese authorities in the future. Earlier this month, Chinese Premier Li Keqiang made it abundantly clear that Beijing has now "declared war" on pollution.

He wasn't joking. The country's environment ministry said last week it has started using drone aircraft to search for illegal polluters in northern China.

The country's rise since the 1980s has increased the standard of living dramatically for hundreds of millions of its people when it comes to most economic and general quality-of-life factors. But environmental degradation — most visibly the air pollution seen in major cities — remains an outlier in that regard.

Besides the pollution being a serious health concern and potentially leading to astronomical medical costs down the road, officials are now recognizing its immediate economic impact. According to the American Chamber of Commerce in Beijing, a recent survey shows that 48 per cent of 365 foreign companies doing business in northern China expressed concern that the region's pollution levels are turning senior executive away. That's a jump from the 19 per cent recorded in a similar survey in 2010.

Essentially, pollution is preventing top-end talent from embracing China fully.

And a report from the World Bulletin last week noted that some foreign companies had to offer extra financial incentives, such as higher pay and/or heftier insurance packages, to entice executives, which adds extra costs for firms doing business in China.

With competition for global investment rising, especially from Southeast Asia, pollution has become a rare disadvantage for China — one Beijing is now actively tackling. The forest expansion is just one aspect of that initiative.

There is another economic aspect to consider when it comes to China's reforestation, and it is an issue that British Columbia should keep a close tab on. Beijing's forest report clearly outlined one of the key benefits of reforestation is the increased "provision of lumber products for the development of economy and society." The report also notes that the plantation forests — which now account for 46 per cent of China's domestic lumber production — will allow for the country to protect natural forests while continuing to maintain (or even increase) lumber production levels.

The likelihood of China's reforestation having an immediate impact on the country's demand for Canadian lumber is slim. But if Beijing follows through with its plans, it may force B.C. rethink its lumber export goals.

Toronto's trees worth $7B, TD Bank says

In Toronto there are some three million people and there are more than 10 million trees of at least 116 species. Approximately 30 per-cent or 190 square kilometers of the cities space is covered by trees or shrubbery.

It is easy to forget that trees have a monetary value, the replacement value of the cities tree cover is about $7 billion or $ 700 per tree. The urban forest does more than beautify the city, it represents an important investment in environmental condition, human health and quality of life.

The trees reduce flooding by helping the soil absorb the 25 million cubic metres of precipitation it receives, they have a great effect on the cities temperature for in winter they block the cold winds and in summer they help cool the city. Further more they sequester over 46,000 tonnes of carbon every year and currently store about 1.1 million tonnes of carbon. Green city parks improve peoples health and sense of well-being.

With resoect to re-estate values in areas that offer trees rental rates are about seven per-cent higher and New York City reported that having trees on or near property generates an additional $90 in property taxes.

Editor note- We the woodlot people are certainly contributing to the well-being and health of the environment and the population by maintaining our woodlots, even though they may not be valued at $700 but they do indeed have a value for everyone.

Wildfires Affect Water Quality, Quantity

THE SEVERITY AND FREQUENCY of wildfires in the western United States have increased during the last decade because of long-term fire-suppression efforts and climate change. Wildfires can produce dramatic physical and chemical changes in soils and hillslopes that negatively affect downslope and downstream drinking water utilities. Raw-water quality may be degraded from soil erosion, which can increase suspended sediment and turbidity, or from added inputs of organic carbon, nutrients, and other constituents. Hydrologic effects in a severely burned watershed can give rise to flooding, increased peak flows, and debris flows. These effects may necessitate changes in water treatment operations and significant capital investments (e.g., relocating intakes, dredging reservoirs, or finding new water sources).

The magnitude of these changes depends on several factors, including a fire's severity, intensity, and duration; the terrain's slope; and the amount and intensity of precipitation during post-fire rain events. Changes in water quality may manifest under different runoff conditions. Effects tend to be the greatest soon after a fire; a first-flush storm (the first substantial post-fire rain event) can substantially increase dissolved organic carbon (DOC), turbidity, nitrate, and other constituents. Thunderstorms in some terrains (e.g., the Colorado Front Range) can produce intense rain and generate spikes in various constituents. Rapid snowmelt conditions also may provide increased discharge and associated changes in water quality.

WATER QUALITY EFFECTS

Nutrients: Nutrients from watersheds generally increase after wildfires, the burn severity plays an important role in post - fire water quality and nutrient export.Plants, surface litter, and soil organic matter are pools of nutrients. A severe fire consumes over-story and under-story vegetation, roots, and rhizomes and burns surface organic matter. Whereas low-intensity fires affect nutrient pools release much less. Thus the low intensity fire will recover much faster.

Nitrogen, in particular, increases immediately after a fire, pecks in the first or second year after a fire, and declines as vegetation returns. In addition ammonium loading may increase, which is volatilized during a fire and can dissolve into streams. It may also be retained in exchangeable form in the soil and subsequently may be leached. Organic and total nitrogen concentrations in stream water can also increase, most likely from transport of sediments and organic matter in high flows.

Organic Carbon and Chemical Constituents: Particulate organic carbon may be elevated in surface water after a fire because of ash deposition, which can have high organic contents, combined with soil erosion. Leashing of water through ash may make acidic water soluble. Several other chemicals may increase after a fire, when ash is produced it contains oxides of calcium, magnesium, and chlorides; carbonates of sodium and potassium; polyphosphates of calcium and magnesium; and small amounts of phosphorous, sulfur, and nitrogen.

Fire Retardant Chemicals: Firefighting chemicals include long and short term fire retardants, firefighting foams, and wetting agent. Ammonium sulfates and diammonium phosphates are the most common active ingredients in modern fire retardants. These chemicals may reach streams directly, via overland flow, or through percolation through the soil to become incorporated in stream base flow. Potential water quality problems include cutrophication (and fish kills) and inputs of cyanide (from corrosion inhibitors).

Hydrologic Effects) After a severe fire heavy rains can cause erosion in particularly in hilly terrain. It can be life threatening by creating flash floods, and landslides, caused because of the vegetation being destroyed. Sediment may also fill reservoirs with sediments and debris. In addition the water quality will be poor due to turbidity with taste and coloring being altered this will improved as vegetation gets established again. Water treatment plants will be faced with a number of challenges to produce potable water.

Stopping By Woods on a Snowy Evening

Whose woods these are I think I know.
His house is in the village though:
He will not see me stopping here
To watch his woods fill up with snow.

My little horse must think it queer
To stop without a farmhouse near
Between the woods and frozen lake
The darkest evening of the year.

He gives his harness bells a shake
To ask if there is some mistake.
The only other sound's the sweep
Of easy wind and downy flake.

The woods are lovely, dark and deep.
But I have promises to keep.
And miles to go before I sleep,
And miles to go before I sleep.

Robert Frost

Trees Might Store More Carbon Than Thought

Examining a long-lived forest, researchers have found that Black Spruce trees, which dominate the northern forests of North America, succumb about five years after being weakened by environmental stresses. Without rejuvenating fire, the dead trees aren't being replaced by new ones. The result will help researchers better understand how climate change affects the health of forests, and how forests affect the severity of climate change. The study also suggests trees might be storing more carbon than currently estimated.

"The take away from this is that a combination of short and long term processes shape forests," said lead author Ben Bond-Lamberty of the Department of Energy's Pacific Northwest National Laboratory. "Scientists have paid a lot of attention to potential climate change signals in forests — like them growing faster than expected due to an overabundance of carbon dioxide, or slower due to climate change-induced extreme temperatures. But that signal is hard to see because of past disturbances that the forests are recovering from."

Appearing in the journal *Global Change Biology*, the showed that tree growth slows down as forests age, as expected. The study also allowed the researchers to examine tree mortality — information needed to figure out how much carbon dioxide trees can store — to improve climate models.

"Most climate models that incorporate vegetation are built on short-term observations, for example of photosynthesis, but they are used to predict long-term events," said Bond-Lamberty, who works at the Joint Global C hange Research Institute, a collaboration between PNNL and the University of Maryland in College Park, Md. "We nee d to understand forests in the long term, but forests change slowly and researchers don't live that long."

Taking Inventory, Counting Rings

To explore the relation between climate and forests, Bond-Lamberty and his international group of colleagues combined data from tree rings and by watching how many trees died over 13 years in a northern Canadian boreal forest. Located in the northern latitudes, boreal forests have long cold winters and are full of evergreen trees. The forest has been studied well in the past — it was the site of the NASA-led BOREAS project in the 1990s, a study that provided scientists with a lot of what they know about forests and climate.

The tree ring data included tree core samples collected in three different years between 2001 and 2012 in a region called the Northern Old Black Spruce site. Such data tell scientists how fast trees grow every season over decades or hundreds of years. Slow-growth years suggest that rainfall was low or the temperature was very hot.

The team found that the oldest trees started growing in the mid-1800s. Since then, the stand of trees has gone through at least three dry periods, evident from very thin rings during those periods. Although tree rings can show how trees grow over the years, they can't tell scientists when trees die. For that, researchers had to go walking through the forest, taking inventory of what was there.

To get the inventory data, researchers visited the same 200 square meters four times between 1999 and 2012. They counted every living and dead tree that had grown at least chest high and measured their diameters as well.

The researchers found that only three new trees of chest height entered the inventory during those 13 years, whereas many more died and others fattened. Meanwhile, leaf cover stayed the same. Bond-Lamberty said this isn't surprising to see in a forest that hasn't seen a wildfire in a long time.

When the team put the two sets of data together, though, along with climate data from the same 150-year period, they could clearly see the link between periods of slow growth and dead trees later on.

"We see a five-year lag between depressed growth in the tree core data and increase of deaths in mortality data," said Bond-Lamberty. "Trees are dying and not getting replaced, but the average tree growth is bigger. People usually say that young forests take up carbon dioxide fast and store it away, while older forests are probably neutral. Our study shows that as trees die in an old forest, middle-aged trees fatten up."

Thirsty Trees

This study also might cause scientists to reevaluate BOREAS results, said Bond-Lamberty. Data from BOREAS allows researchers to estimate how much carbon dioxide trees pull out of the atmosphere and store within their structures, a value used in some models to predict the role of forests in a future, warmer world. But the BOREAS study period turned out to be a rotten time for the forest.

"What we've discovered is that the 1990s was an unusual decade," said Bond-Lamberty. "Not the worst ever for growth, but pretty bad. That means instead of typical growth, we saw slow growth, and that raises questions about whether, on average, forests are socking away more carbon than we think."

Although this study in particular did not observe that trees are growing faster in the industrial age due to more carbon dioxide in the air, knowing how long it takes for trees to die will be important for scientists trying to work that out.

Another time of thirst for the forest appears to be in the first half of the 20th century. "From about 1920 to 1940 was a terrible time to be a tree. They were having a tough time staying alive, and you can see that in the forest's structure today," said Bond-Lamberty.

To determine whether these results applied more widely or if the stand was subject to unusual conditions, the team compared the Northern Old Black Spruce to a stand of slightly younger, 80 year old Black Spruce trees about three miles away. Comparing the two stands of trees to each other showed similar results, indicating that what was "To understand current forest dynamics," said Bond-Lamberty, "we have to understand their past. Older forests contain surprises for climate science and ecosystem biology. We need to distinguish past disturbances from today's conditions."

Did You Know

The RED-OSIER DOGWOOD. *Cornus stolonifera*

(Kinnikinnick)

Birds Attracted: Nearly 100 species of song and game birds are attracted to the various dogwoods, this being one of the favorites.

My Woodlot

by the Pharis family

A brief summary of timber operations on the Elkhorn Stock Ranch:

Timber on the ranch consists of white spruce,lodgepole pine and Douglas fir. The entire area was burned during the mid to late eighteen hundreds. The area was settled between nineteen ten and nineteen eighteen. The relatively young timber stands provided an abundance of fence posts rails and small building logs for the settlers. Most of the timber was taken selectively and as a result timber of mixed age and size was left.

In nineteen thirty two the first sawmill waa operating on the ranch. These were the great depression years and the operator soon went bankrupt. During the nineteen forties two more mills operated for a short time.

My Grandfather established Elkhorn Stock Ranch in nineteen nineteen. He did a lot of building with rails and logs but never sawed lumber. We started sawing lumber in nineteen sixty four and through the seventies and eighties it was an important part of our operation.We continued the practise of selectively cutting mature trees.We took trees from about six different patches .All of these areas have a good variation of aged trees and continue to provide good quality saw logs.

I have retired from the logging operation and the present operators,Nolan and Leona Pharis, only saw lumber for their own use or for special orders of high quality lodgepole and Douglas fir orders

The woodlot is of mixed age trees now and probably has more saw log size trees now than at any time during the last hundred years.

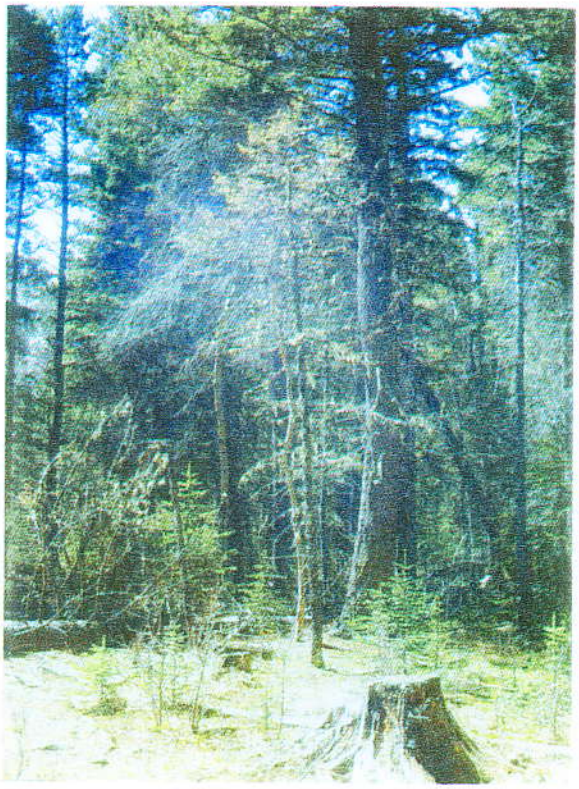
This area has very hot dry and windy summers so the danger of wild fire is always there.The six patches where we have operated are separated by aspen and grassland, so it is unlikely that a fire would destroy them all in one event.

The ranch has a conservation easement on all it's land from the Nature Conservancy of Canada. This agreement states that veteran trees such as the four hundred year old tree will not be harvested. There are quite a number of similar trees at different locations on the ranch.

Gordon Kerr presenting Hilton, Alta Nolan and Leona with the Woodlot Award for 1999

The Douglas Fir in the centre was missed in the fires in the 1800's. It has a circumference of 16.5 feet, and is at least 400 years old. The stand has been thinned for 100 years, and continues to produce quality Fir logs.

White Spruce stand where the older trees have been removed
Many of the younger trees will soon be large enough for saw logs.



This was a pure Lodgepole Pine stand, as the large trees where removed the re-growth is nearly all White Spruce