

The Boreal Forest eNewsletter

Interior Alaska Forest Science, Management Practices and News of Interest from the University of Alaska Fairbanks Cooperative Extension Service

From the editor:

After a wet summer we are now having a nice, long fall. Operationally, this is good for loggers and other woodcutters. We don't have 30 below and deep snow — yet.

Biomass is alive and well in Interior Alaska. The Tok School Biomass Project began in 2007 and state officials estimate that since then the timber industry there has invested an additional \$2.5 million in equipment to harvest, process and deliver logs, chips, lumber, cabin logs and other forest products. Other communities in Alaska are also utilizing their forest resources as appropriate to provide less costly energy and local forest products.

There is plenty of room to sustainably expand the use of our renewable forest resources, and state forestry is leading the way on state lands to encourage it everywhere in Alaska.

Cooperation works — the Tok and Delta Schools share their equipment to produce chips that provide heat to both (and power to Tok as well).

Other Alaska communities are finding that biomass is saving them a lot of money on the cost of fossil fuels, and this carbon-neutral energy is sustainable as well as renewable. Local people also get jobs, which means an even greater economic benefit.

These are exciting times for forest management and bioenergy utilization in Alaska!

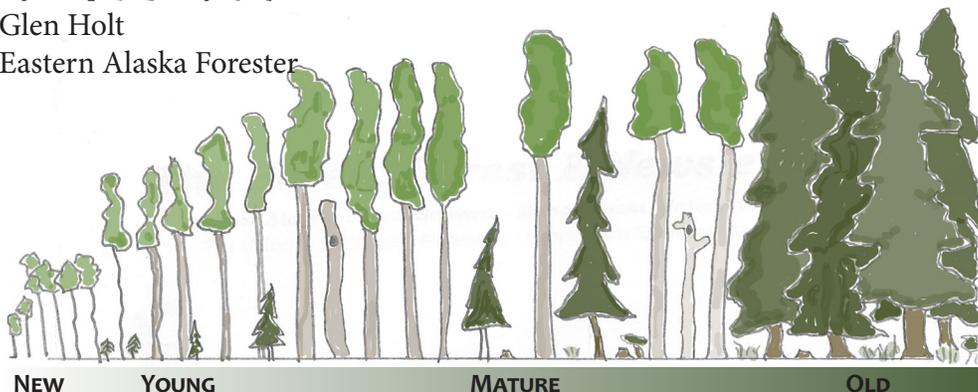


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Birch Tree Decline

Glen Holt, Eastern Alaska forester, UAF Cooperative Extension Service

Even after the record setting rain we've had this summer, the effects of the hot, dry summer of 2013 are visible in Interior birch trees. In addition, birch in Fairbanks are also being attacked by an insect, the amber-marked birch leaf miner.

Dr. Glenn Juday, University of Alaska Fairbanks forest ecologist, has been researching climate change in northern forests for 35 years and believes paper birch are taking a serious hit from the long-term effects of a changing climate. Juday believes the effects of drought and climate change combined with the damage done by the birch leaf miner may be pushing birch beyond their ability to recover and/or adapt in Alaska. Time will tell, but for now, scientists continue to document the changes and model the outcomes.

The amber-marked birch leaf miner appeared in Anchorage several years ago. This invasive insect has impacted, sometimes severely, the urban forest of that city. According to Juday and other forest scientists, this particular leaf miner hadn't come as far north as Fairbanks until just recently, and Dr. James Kruse, forest entomologist for the U.S. Department of Agriculture's Forest Service in Fairbanks, reports that this insect defoliator has not made great inroads in the birch/spruce forest of the Tanana Valley State Forest so far; however, during my site visits to assess birch trees this summer, I noticed smaller, thinning leaves, dying tops and the effects of the amber-marked birch leaf miner on the larger, most-mature birch growing on the edge of the forest or in the open by themselves.

Birch can be stressed for other reasons, too. Older birch are prone to heart rot, which makes them more susceptible to wind breakage. Many birch forests, including those around Fairbanks, are getting older and are less able to fight off forest pests — especially when they are also suffering from the effects of drought.

Trees with their roots compacted by construction (including sidewalks, driveways), woodpiles, dogs and people traffic are susceptible to all of the birch forest health problems.



Birch in Fairbanks are getting older and more susceptible to die-back, root damage and insects.

Birch decline is not new; it has been documented in Alaska forests before now. Hardest hit by dieback are birch stands older than 80 years of age and those stands that have been excessively thinned or opened up by selective logging or disturbed by construction activities.

After a forest fire, birch trees in the forest regenerate best naturally. Birch need full sunlight and mineral soil to germinate. A hot fire burns-off the vegetative mat and exposes mineral soil in full sunlight.

Here are some tips for protecting your birch:

- Don't pile wood, soil or other things on or next to trees.
- Be careful not to damage tree trunks.
- Don't expect birches to survive long after any mechanical damage because their roots get smothered by topsoil and rot/fungus enters the tree from trunk wounding and damaged roots.
- During really dry springs, water your trees a time or two; this should help them survive.

The Debate Over Clearcutting

Adapted from an article on the Society of American Foresters website

Clearcutting is a scientific method of harvesting and regenerating a forest. In this method all trees are cut from a site and a new, even-aged stand of trees grows back. It is most successful when the harvested tree species — such as aspen and balsam poplar — grow back naturally from root sprouts. Clearcutting is one of several methods of timber production and management on private and public forests. However, this method of harvesting trees remains controversial.

Many people who object to clearcutting cite soil and water degradation, unsightly landscapes and other damages. The commercial timber industry and mainstream forestry professionals defend clearcutting as an efficient and successful forest management system.

The choice of using a clearcut depends upon forest management objectives. If one of those objectives is maximum timber production, clearcutting can be financially attractive because it costs less than other tree harvest systems. Clearcutting has also proved successful for regenerating stands of aspen, balsam poplar and willow to benefit wildlife — such as ruffed grouse, moose, snowshoe hare and lynx — that depend on young forests for habitat.

The Society of American Foresters promotes clearcutting as “a method of regenerating an even-aged stand in which a new age class develops in a fully-exposed microclimate after removal, in a single cutting, of all trees in the previous stand.”

Cutting trees and forests to convert land to non-forest urban development and agriculture is not considered clearcutting. This is called land conversion, which means the land is changed from forest to another type of use. As described, clearcutting is a legitimate, scientifically proven means of managing a forest and regenerating certain species of tree to an even-aged stand.

However, even among professionals, clearcutting is not a universally accepted practice. Opponents contend it degrades the environment. Forestry professionals and resource managers argue that the practice

is sound if used properly. Aesthetics are the main public objection to clearcutting.

The management definition of clearcutting is the opposite of commercial clearcutting, where only trees of marketable species, size and quality are cut. Cutting only those trees that are of commercial grade degrades an area by shading out the next generation of preferred trees intended for reforestation. Those trees most benefited by a clearcut need or require full sunlight in order to grow and mature.

In Interior Alaska, clearcutting is a desired practice for successfully regenerating sun-loving hardwood tree species such as aspen and balsam poplar, which grow back naturally and prolifically after cutting from root sprouting. Clearcutting birch works best if a few trees per acre or clumps and small islands are left and mineral soil is exposed to falling seeds. In burned areas, regeneration is often increased after additional salvage logging, which further disturbs the area, allowing certain tree species to grow back naturally. Using a controlled fire to prepare a site for forest regeneration is risky and has not been deemed appropriate in Interior or Southcentral Alaska at this time.

Note: Observe how prolifically birch and spruce regenerate along forest roads where soil disturbance has been the greatest. Soil disturbance should be done carefully to retain all the soil attributes and not degrade the site by erosion or soil loss.

This stand of aspen regenerated well after clearcutting 28 years ago near Tazlina, Alaska.



Division of Forestry Harvests Spruce Cones for Seed

Adapted from an article by the Division of Forestry

When many Alaskans are focused on berry picking or moose hunting, the Division of Forestry (DOF) is gathering hundreds of white spruce cones to provide seed for timber sale plantings.

Spruce seed is collected from spruce cones gathered in the forest. Seeds are cleaned, processed and stored until they are sent to a professional nursery. Through competitive bidding, state forestry selects a nursery to grow large numbers of seedlings.

The selected nursery ships back healthy seedlings to the area in Alaska that ordered them; the seedlings are usually grown from seed gathered from that area. Each area determines how many spruce seedlings it needs based on recent timber sales. The State of Alaska Forest Resources and Practices Act (AFRPA) requires a specific number of trees per acre to be regenerated or remain within harvested timber sale areas. Forest regeneration is part of the AFRPA, which was enacted to provide forest resources for the future.

Seeds must have an average germination rate of 70 percent or higher to be accepted by a nursery. Forestry stores its seed at the Division of Agriculture's Plant Materials Center, with some seeds dating back 30 years. Germination rates decrease over time, however, so plenty of seed is gathered during good cone crop years to replenish the seed bank.



Collecting spruce seed is most effective during good cone-crop years, and this year was a banner year for spruce cone production. Good cone crops occur only about once every five years.

**Photo by Joseph O'Brien,
USDA Forest Service,
Bugwood.org**



White spruce cones are gathered from trees cut from timber sales near where they need to be planted.

Not every area of Alaska has a good cone crop at the same year. Each area must collect cones when they are in abundance and then send them to the Plant Materials Center for cleaning and storage.

Prior to replanting a timber sale, seeds are sent to the state-contracted nursery. It takes up to two years to produce seedlings. "It takes about five seeds to produce one seedling," says Jeff Graham, state forester in charge of forest stewardship and tree seed collection. Last winter, DOF sent about 500,000 seeds to the Coast to Coast Nursery in Alberta, Canada, which was awarded the contract to grow forestry's seedlings. Coast to Coast Nursery shipped them to Alaska last summer for planting.

Approximately 44,000 seedlings were recently planted on 176.5 acres in the Fairbanks area, which translates to about 440 seedlings per acre. The majority of those seedlings were planted in recently closed state timber sales along the Standard Creek and Nenana Ridge logging roads.

Spruce cones collected for planting around Fairbanks this year were harvested from two different spruce stands — one along the banks of the Chena River off Grange Hall Road in Two Rivers and another off the Rosie Creek logging road. Fairbanks area Resource Forester Kevin Meany and a crew collected about 10 bushels of spruce cones. Each bushel of cones produced roughly one-third of a pound of cleaned seed.

Heating Your Home with Wood

Is a Pellet Stove the Right Wood-burning Appliance for You?

The rise and volatility of fossil fuel prices, along with associated environmental concerns, has led many in Alaska to an increasing interest in alternative fuel sources. Modern wood stoves employ new technologies to increase fuel efficiency and reduce air pollution that has been associated with burning wood. Other technologies have also introduced more options for the use of wood and wood products for home heating. We intend to look at different wood-burning appliances in each edition of this newsletter until we've covered them all. Your input as a reader will help us out. In this issue, we will look at pellet stoves.

These highly sophisticated appliances burn specialized fuel made from compressed wood, which is a renewable, sustainable, organic material. Wood pellets are manufactured from wood chips processed into a wood flour and then squeezed into small pellets resembling animal chow. In most cases, no additional resins or binders are added. While pellet stoves may be complex in design, they are very simple to operate and maintain. They are so fuel efficient (up to 90 percent), that they are exempt from EPA emission testing standards.

Pellet stoves often resemble traditional wood stoves, but the similarities stop there. Pellets are loaded into hoppers within or attached to the stove; hopper capacity varies in size, ranging from 40 to 135 pounds. Pellets are carried from the hopper to the combustion chamber by an auger that is controlled manually or electronically by thermostat. Heat output is regulated by the rate pellets are fed into the fire. Fans and heat



Superior Pellet Fuels makes pellets in North Pole, Alaska.



Pellet stoves can look just like a modern woodstove.

exchangers move the heat created from the burning pellets by convection away from the appliance and into the surrounding space. Because of this design, pellet stoves often remain cool to the touch and pose less of a hazard to small children than traditional wood stoves that rely on radiant heat.

In the right situation, a pellet stove can offer a reliable and efficient heating option for your home. However, the manufacturing process for pellets is expensive, and because of the explosive nature of wood flour, it can be dangerous. Additionally, pellets are not available in all locations.

Advantages:

- Exceptionally efficient, almost zero emissions and very little creosote deposit.
- Clean and easy to operate and maintain; hoppers only need to be loaded daily, or less.
- Less expensive to install; many can be direct vented, eliminating the need for an expensive chimney or flue.
- Higher heat output than firewood.
- Pellets are locally available and manufactured in Alaska from Alaskan wood.

Disadvantages:

- Most require electricity and will not operate during a power outage.
- Complex appliance with expensive components that can break down.

Purchasing Firewood in Alaska

Adapted from a publication by Alaska Division of Forestry

Wood is abundant in most of Alaska and is an important source of heat. Cutting firewood takes time and hard work but it can be good for body and soul.

Using wood as a fuel for heating purposes has many advantages:

- Wood is plentiful and renewable.
- Wood provides a heat source in the event of a power outage or shortage of other fuels.
- Wood is less expensive if the user provides the labor.
- Wood fires are aesthetically pleasing.
- Wood fires provide a lot of direct, radiant heat.

Using wood also has some disadvantages:

- Handling can be dirty and difficult due to weight, bulk, splinters and hard edges.
- Logs vary in heat output and the length of time they burn, depending on the tree species.
- Wood fires require attention (adding fuel, stoking, guarding against sparks, removing ash, maintaining stoves and chimneys).
- Storage space is needed.
- Wood burns best after seasoning for 12 months.
- Wood smoke can be harmful to air quality.

Firewood Characteristics

There are three characteristics of wood to consider when purchasing firewood. Wood density, resin content and moisture content are characteristics that vary among species and among trees of the same species. This variability contributes to differences in weight, intensity, rate of combustion and the amount of heat in a given volume of wood. Density is usually expressed in pounds per cubic foot at a specified moisture content. In general, the denser the wood, the higher the heat output. Resins, when present, are usually highly flammable and can result in more heat from wood that is less dense than wood without high resin content.



Cutting firewood with a bow saw is the ultimate in energy efficiency.

Moisture content is usually expressed as green or air dry. Paper birch has a green moisture content of about 80 percent; aspen about 100 percent. This means that the moisture in green aspen weighs just as much as the wood itself when totally dry. Air dry means the moisture content is from 12 to 20 percent. You can maximize the heat output from firewood by seasoning it under cover, with good air circulation, until the moisture content is less than 20 percent. Split wood dries more quickly and burns more evenly. The drier the wood, the higher the heat output.

Buying Firewood

Firewood is most often sold by the cord or some portion of a cord. A cord is a stack of wood that measures four feet high by four feet wide by eight feet long. A cord is 128 cubic feet of wood, including bark and air space. The actual amount of wood in a cord varies depending on the size of the sticks and how well they are trimmed and stacked. A cord of firewood made up of well-trimmed sticks 6 to 8 inches in diameter and carefully stacked will contain 85 to 90 cubic feet of solid wood and bark. A cord is not a precise measure of wood volume.

Sometimes wood is sold by the face cord or short cord. That means the stack of wood is 4 feet high by 8 feet in length and the sticks are stove or fireplace length, usually 12 to 20 inches long, depending upon what you order, so there's much less wood in a face cord than in a full cord.

When buying firewood, ask how the seller defines a cord, the price per cord, the species of wood, and how and for how long it was seasoned in order to compare the deals offered by various sellers. Having the wood delivered and stacked, rather than dumped,

will increase the cost. The best deal is the lowest cost per cord of wood, seasoned properly for the longest period (up to 12 months) and made up entirely of birch in the Interior and Southcentral, and hemlock and Alaska cedar in Southeast Alaska.

Alaska Wood Fuels in Air Dry Condition (20 percent moisture content)

Tree Species	Relative Density Index	Density (lb. per cu. ft.)	Pounds per Cord (85 cu. ft.)	Million Btus* (lb. per cu. ft.)
Southeast				
Hemlock	0.45	33.6	2,856	22.0
Alaska cedar**	0.44	32.9	2,797	22.0
Western red cedar	0.32	24.0	2,040	19.8
Sitka spruce	0.40	30.0	2,550	18.1
Southcentral/Interior				
Paper birch	0.55	41.0	3,485	23.6
White spruce	0.40	30.0	2,550	18.1
Quaking aspen	0.38	28.4	2,414	16.6
Balsam poplar	0.34	25.5	2,168	15.0

*Btus listed are near the maximum available and will be less in your stove depending on its efficiency; usually only 50 to 70 percent. Use the most efficient wood stove you can buy.

**Alaska cedar may have more Btus per cord due to high resin content.

Tok School Biomass Project

The use of forest resources for heating and electricity is growing in Alaska and nowhere more than in the community of Tok. The cost of fuel for heating and electricity is high in Alaska, and in the Tok area the electrical grid is limited, unconnected to outside sources, so electricity is produced by generators that use diesel fuel, the cost of which is based solely on the price of diesel fuel made elsewhere. Many Alaskans are looking to local wood as a more cost-effective alternative to producing heat and generating electricity.

The Alaska Gateway School District (AGSD), the Tok Umbrella Corporation and the Alaska Division of Forestry (DOF) started the Tok School Biomass Project in 2007 and through grant funding were able to build a state-of-the-art, wood chip-fired heating and power facility to provide renewable energy for many



Left to right: Tok School boiler facility, greenhouse, chip shed

years. Since then, they have been actively researching, seeking and finding the appropriate technology and funding to continue the project.



Defensible space was created around the Tok School by the Fuels Mitigation Program. Fuel from it was used to generate heat and power.

The project utilizes a locally obtainable, sustainably renewable energy resource that emits fewer particulates in the air than the average home-heating woodstove. Biomass is a vast resource in the Tok area and the amount of wood harvested is considerably less than allowed based on Tok forestry’s annual allowable cut. The project also provides much-needed local employment and could serve as a model for other similar locations around Alaska.

Nearly \$4 million in grants from the governor, the Legislature, the Alaska Energy Authority and others were obtained to plan, construct and facilitate development of the system that provides heat and power for the Tok School complex. Grants also paid for equipment to supply biomass and purchase a large grinder to process chips. This grinder also provides chipped biomass for the Delta School chip boiler. Each school saves tens of thousands of dollars a year using biomass instead of fossil fuel for heat. Additional capacity remains to use this chipper for other Interior communities.

Grant funds were also used to purchase a loader to move chips, a steam turbine to generate school electricity, a log-loading trailer to transport timber, a chip storage barn and a diesel back-up generator, and to provide yearly certified boiler inspections and training for a crew to maintain the facilities.

Most of the biomass for the project comes from timber cut as part of the grant-funded fuels mitigation program, which creates defensible space around Tok and reduces hazardous fuels in the area, which is characterized by densely growing stands of pole-sized white spruce trees. This program directly affects the safety, survival and property of Tok residents.

The Tok region is prone to wildfires. In 2007, the Eagle Trail Fire burned 13,000 acres, causing the evacuation of the community of Tanacross, 10 miles northwest of Tok. Fortunately, Tanacross did not burn, but enough timber burned in that fire to heat and power the Tok School for 400 years.

School superintendent Todd Poage is pleased with the continued savings and increased efficiency in heating and electrical power generation that come from the biomass project. Savings and local hires created as a result of the transition to biomass at the Tok School are as follows:

Savings:

- 60,000 gallons of heating oil at Tok School @ \$3.55/gallon cost \$213,000
- 25-40kW produced 24/7 for seven months (2013) \$44,035
 - o (A 30% reduction in costs using biomass steam generation)
 - o (Beginning to produce up to 60 kW this year)
- Total Gross Savings** **\$257,700**

Expenses to utilize biomass:

- Chipping contract with local vendor \$109,200
- Biomass plant operator (full-time local position created) \$58,500
- Replacement parts and training \$28,000
 - o Total costs (majority of which remain within the community) \$195,700

This current total savings of \$62,000 per year is used to supplement instructional programs. Other cost-saving measures are also being implemented, including the gradual switch to LED lighting. Savings will increase as the plant moves from producing 25–40 kW to 60 kW and begins to heat more facilities. Since adding a new greenhouse this summer, power output has increased, and as additional facil-



Project funding built the new chip storage barn keeping biomass chips dry and solving a wet fuel problem.

ities are heated, the plant will increase its efficiency and savings will be greater.

The greenhouse provides fresh produce to the seven schools within the district; it is heated for nine months and powered for seven months of the year through the biomass facility. The Tok School's next project is to add a heat loop to the sports facility, located several hundred yards away from the biomass plant.

The biomass facility has been providing heat for the Tok School for the past five years, but this is only its second full year of producing electricity, so refining the process for efficiency is still ongoing. When all aspects of the project are completed and power is being generated at goal levels of 60 kW for 24/7 during seven months of the year and the sports facility is heated with biomass, savings will be in the range of \$175,000 per year (while still contracting locally for chips and continuing employment of the biomass plant operator). The school district calculates that it is keeping about \$300,000 dollars per year within the local community, money that would have otherwise left the state to pay for fossil fuels.

The Tok School Biomass Project and Cooperators are solving each challenge as it arises. And they are sustainably managing local renewable forest resources, saving the state money that would otherwise go for



The new Tok School greenhouse grows produce for the school and six other district schools.

more costly energy and on forest fuels reduction that would include burning piles of timber if they weren't used for chips.

The Tok School project is effectively reducing the costs of heat and power, helping to reduce the community fire danger problem, creating new local jobs and improving economic development. Other communities, as appropriate, can do this too.

The Tok chipper has capacity to produce chip fuel for other communities.



Tree Feature: White Spruce

(Picea glauca)

White spruce is the most common tree of Interior Alaska. It is found in open forests with paper birch or aspen, in pure stands and thickly growing in over-stocked stands. It grows best on well drained soils and gentle, south-facing slopes and comprises the tallest forests along large river bottoms where running water thaws the soil. It is seldom found where permafrost is close to the surface.

White spruce often replaces balsam poplar along river floodplains and it overtakes and outgrows older declining forests of birch and aspen. White spruce generally lives longer than birch, aspen or poplar. Often a forest will initially regenerate to hardwoods with white spruce slowly growing in the shaded understory. This spruce can live 100 to 200 years, limited only by insects, rot or wildfire.

The spruce beetle and engraver beetle may be seen at low levels in stands approaching 100 years of age. Large infestations of spruce beetle have been noted periodically in Southcentral Alaska, the Copper River Valley and the Kenai Peninsula. Spruce stand conditions and weather patterns may align to allow catastrophic insect infestations. The Kenai area recently experienced an infestation of spruce beetle that affected 2 million acres of white spruce. The engraver beetle is more common in Interior Alaska. Both beetles kill the tree while in the larval stage, girdling the tree beneath the bark.

Another spruce mortality factor is root rot. When also infested with carpenter ants, spruce suffering from root rot will tend to tip over in wind at the root wad or break off wherever rot has weakened the trunk the most. There is no cure or remedy for root rot. A hazardous tree is one that is rotten and close to buildings. Ants often infest rotten trees because they are more easily able to bore into rotten wood and make their homes.

Frost cracks, mechanical damage to the trunk or roots and root compaction are other factors that can damage spruce trees and lead to mortality.



Other known stress factors include porcupine and bear damage, spruce budworms and needle rust. These are seldom lethal but in all cases could weaken the tree so it succumbs easily to something else.

White spruce is a shade-tolerant tree species able to grow slowly in the shade. As the original over-topping hardwood stand thins out due to old age, the longer-lived spruce are able to take over, forming more open stands of spruce .

In pure stands of white spruce, logging, fire or other disturbance can create a thick stock of white spruce. The Tanana Valley is one such location where disturbance can create excellent spruce regeneration, especially in stands where faster growing birch, aspen or poplar are not present.

Repeated fire during a short period of time seems to limit spruce regeneration by burning up residual cones and seeds, which allows hardwoods to regenerate instead from seeds that blow in from elsewhere.

Characteristics

White spruce is a medium-to-large-sized conifer that may grow 100 feet tall or more. It often grows from 40 to 70 feet tall and averages 6 to 18 inches in diameter. Trees in the most favorable sites can grow over 100 feet tall and 30 inches in diameter. The crown of a very large tree is most often point-

ed and the branches may cover the trunk down to the ground.

White spruce branches are covered with evergreen needles that spread out on all sides of the twig, massing on the top of and at the end of the twig. Needles are $\frac{1}{2}$ to $\frac{3}{4}$ inch long, four-angled, sharp-pointed, stiff and blue-green with whitish lines on all sides. The needles and twigs give off a skunk-like odor when crushed. Twigs are hairless, slender and an orange-brown color.

White spruce cones hang down, are cylindrical in shape, nearly stalkless and from $1\frac{1}{4}$ to $2\frac{1}{2}$ inches long. The relatively long cylindrical cone is light brown and falls from the tree at maturity. Red squirrels are famous for cutting cones from the tree each autumn and caching them on the forest floor in huge piles beneath the trees.

The seeds may be seen on the snow. They are winged and about $\frac{3}{8}$ inches long. White spruce seeds germinate best on mineral soil but may also germinate on rotting logs and stumps. Good cone crops occur approximately every five to 20 years, seldom every year, and seem to follow summers that were previously and notably warm and dry.

The bark of white spruce is thin, gray and either smooth with resinous blisters or in scaly plates. The wood is white, with growth rings that are easily



seen at the end of boards or on the stump.

White spruce has been known to hybridize with Sitka spruce on the Kenai Peninsula. Natural hybrids of white spruce and black spruce in the Interior are very rare.

White spruce wood is used extensively in Interior Alaska for cabin logs, lumber, pilings, dunnage, mining timbers, drilling platforms, fuel wood and timbers for bridges. It has been exported to the Pacific Rim as logs or cants and as chips for quality pulpwood. The best quality wood can be used to make musical instruments like guitars.

Currently, smaller, poor-quality white spruce is being manufactured in Alaska to make premium-grade wood pellets and pellet logs for home heating.

Traditionally, Alaska Natives make tea of the spruce needle branch tips, resin from the pitch and cordage and baskets from the roots.



Industry Corner

In each issue, The Boreal Forest eNewsletter will spotlight a northern forest industry, timber producer, private, state or federal organization, etc. to showcase what is happening in the Interior forest. Northern forest industries are encouraged to send in a 200-word introduction with their company name, logo, if any, what they do, make or produce, and how they may be reached by those viewing the e-newsletter. This spotlight does not indicate an endorsement by the UAF Cooperative Extension Service.

Young's Timber, Inc.

Joe Young is president of Young's Timber Inc. (YTI) and its sister company, Young's Fuel Logs and Pellets, LLC (YFLP). The companies utilize the renewable timber-fiber resource found in the Upper Tanana region of eastern Interior Alaska. This forest is dominated by stands of live and fire-killed white spruce that grow as far as the eye can see.

Jeff Hermanns, area forester with the Tok Area State Division of Forestry, has shown that salvage harvesting fire-killed spruce improves the forest's natural ability to regenerate. Along the Taylor Highway, forest that was burned and later salvage-logged is growing better than areas that weren't disturbed by logging.

Young's Timber and other forest product companies from Tok are salvaging this timber to provide products and enhance their personal and community economy. The company's business efforts include timber harvesting and transportation as well as manufacturing house logs and cabins, sawmilling lumber and producing firewood. YTI's market includes Interior and South-central Alaska and occasionally the Yukon Territory of Canada, and the company has plans to expand.

Currently, YTI employs five to 13 people on a seasonal basis and as demand warrants. The company hires local folks; several have been working there many years. In fact, as YTI expands into biomass and manufactured log products, Joe intends to hire as many local people as possible and provide in-plant training for them in the Lower 48.



Right to left: Joe Young, Tok Area Forester Jeff Hermanns, UAF professor Glenn Juday and Professor Emeritus Ed Packee at Young's Timber, Inc.

YTI has plenty of room to expand and more than one sawmill that produces an array of forest products. In addition, the company has log trucks, firewood trucks, harvesters, skidders and dozers. Joe found out years ago that to ensure his supply he had to at least be able to harvest some, if not all, of his own timber.

When you drive through the Tok area, timber doesn't come to mind, but believe it or not, Tok has timber, and state forestry is making it available to residents and businesses so they can save money on energy and to industry to help improve and develop the local economy. One thing is for sure, others in the state want and need Tok's timber too.

Announcements & Classifieds

Send in your upcoming forestry presentations, workshops, seminars and meetings so that we can announce them in this newsletter. All announcements will be subject to UAF Cooperative Extension Service editorial protocols.

The University of Alaska Fairbanks Cooperative Extension Service Field Forestry Program partners and cooperates with other agencies, organizations and the private sector to address forest-related needs and questions posed by the public. Extension forestry is currently working with the State Division of Forestry, the USDA Forest Service, the Bureau of Land Management, the Alaska Department of Fish and Game, the USDA Natural Resource Conservation Service, various Soil and Water Conservation districts, a number of private non-government organizations, the Fairbanks North Star Borough, UAF affiliates, rural development organizations, community groups and others to provide information about the management, biology and social interests relating to Alaska boreal forest through workshops, newspaper articles, radio and television interviews and more.