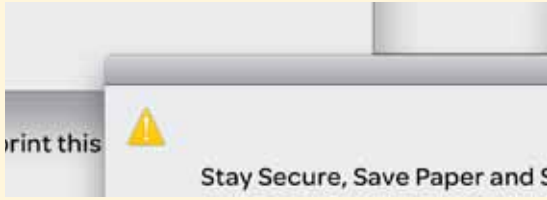


► eQ JOURNAL ISSUE 004 ◄

TAKING THE GUILT OUT OF PAPER

sappi

TABLE OF CONTENTS
 ↘



↖
2
 THE NEW URBAN LEGEND

↗
4
 FOUR QUESTIONS



↖
8
 SUSTAINABLY MANAGED FORESTS

↗
10
 ARBOR: FLOURISHING IN A MANAGED FOREST



Eastern Towhee
 Pipilo erythrophthalmus

18
 SAPPI'S BEST PRACTICES
 ↘



↗
14
 ECOLOGY: THRIVING FOREST WILDLIFE

PRINT IS POWERFUL.
 PUT IT ON PAPER.

↗
26
 POSITIVE MESSAGES

29
 MORE TRUTHS ABOUT PAPER AND FOREST MANAGEMENT
 ↓

↗
22
 HANS WEGNER
 NATIONAL GEOGRAPHIC SOCIETY



As an industry leader with years of field experience and technical knowledge, we know it is our duty to show how sustainable forestry results in healthier forests and thriving wildlife.

LAURA M.
THOMPSON, PhD

Director of
Technical Marketing
and Sustainable
Development

Sappi Fine Paper
North America

» On the battleground of media sound bites, our industry is trying to fight a barrage of misleading messages like “go paperless, save a tree” with our own declarations and one-liners. Offense. Defense. With every parcel of truth, myths and misinformation abound and no one seems to take the time to engage in meaningful dialogue.

As an industry leader with years of field experience and technical knowledge, we know it is our duty to show how sustainable forestry results in healthier forests and thriving wildlife.

True to our eQ promise, herein we present the facts and science behind sustainable forestry practices. So that you’ll feel confident using certified and controlled paper products, we’ve approached this complex issue of managing natural resources by sharing multiple perspectives. You’ll learn from Sappi foresters, an academician, a conservationist, and a third-generation logger—experts who bring to life the true benefits of managing a forest. You’ll also hear the voice of the customer from Hans Wegner, Chief Sustainability Officer for the National Geographic Society, who touches on all the complex social and environmental issues surrounding the pulp and paper industry.

There is not a single matter related to paper use that touches each of us personally and emotionally as forestry. Simply put—people love trees. It troubles me that some people envision responsible paper manufacturers as engaging in deforestation when, in fact, our suppliers are harvesting sustainably with a keen vigilance about promoting the regeneration that keeps forests thriving. This type of forward thinking not only helps create habitats

for animals that call these woodlands home but also ensures clean air, protected soil, better water quality and the promotion of biodiversity. Many people assume the best thing for a forest is to leave it in its natural state, yet few understand that variation in age class within a forest helps to promote biodiversity of both plant and animal species.

Within the following pages you’ll read about where our wood comes from, the types of trees that are harvested and why these particular species are selected for our mills. All forests are managed either by Mother Nature or by humans—and it’s often the case that human management is better for the long-term health of the forests.

We are proud of the fact that selling pulp and paper products is our business. We strive to be a profitable, global leader within our industry, while being vigilant about using sustainably harvested wood with high levels of certification—SFI®, PEFC and FSC®. Sappi does not promote wasteful consumption of resources—renewable or otherwise. We want our customers to use paper wisely and purposefully. And we also want to create an understanding that one need not feel guilty about the impact on the forest when products are sourced responsibly. As an industry, we must strive to meet society’s needs for wood and paper products. But it is not just about meeting that demand—good forest management is about making forests better.

environment
message.

Please don't print this e-mail unless
you really need to!

Please con
before pri


Save Time, Space, and the Earth by
accessing your brokerage statements
and trade confirmations online.

We support the use of technology
and mobility tools that enable associ-
ates to go paperless.

Think before you

Please consider the environment
before printing this message

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 Stay Secure, Save Paper and Save Time.
Go paperless to manage your money.


Print Less. Save Trees.

g emails is usually a waste
ce resources

Be cool, consid
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o be a paperless
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We are striving to be a paperless
office. Please consider the environ-

 Don't Print! Save Paper to Save Trees?

Save trees and bank online. #protip

Eliminate paper bills and help the envi-
ronment.

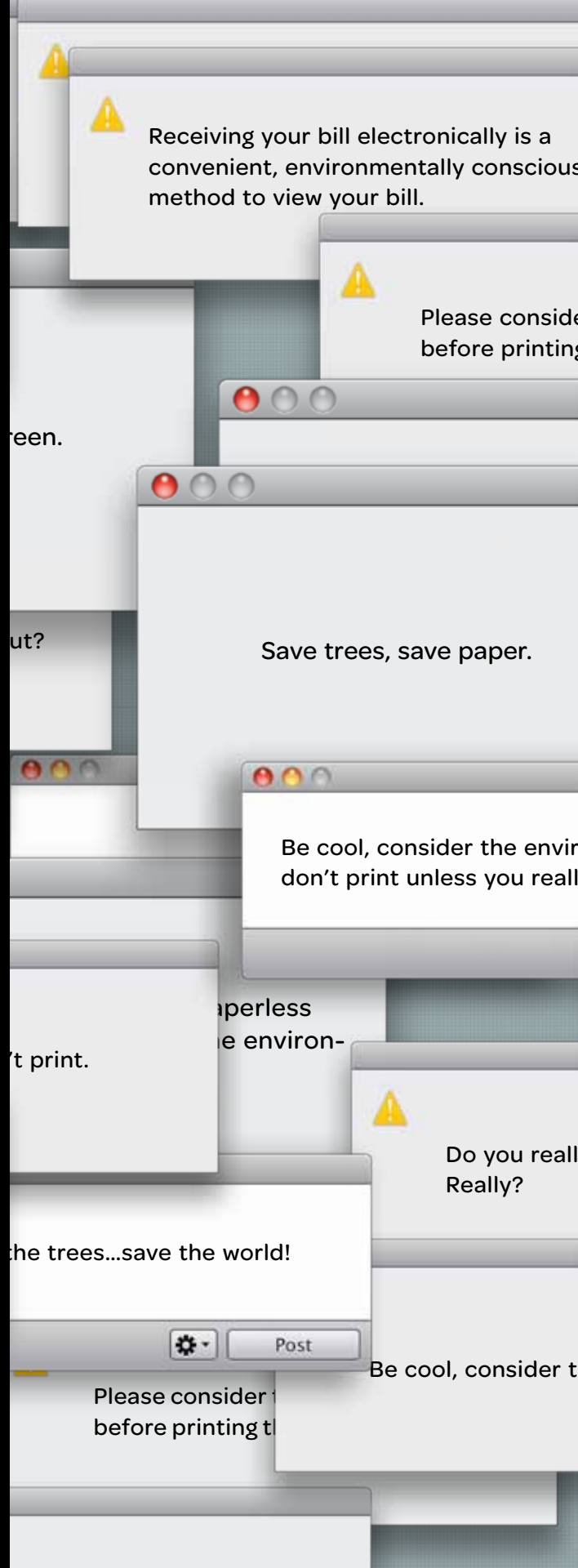
 Save the trees...save the world!

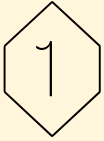
Online statements help the environme
by reducing paper consumption.

➤ NEGATIVE MESSAGES ➤

THE NEW URBAN LEGEND

Negative statements about paper and printing are everywhere. You see them on the bottom of emails, websites and billing statements. Just remember, oftentimes these messages are more fiction than fact. Read on to discover the truth.





What is the value of “managing” a forest vs. having a “natural” forest?

∨ All forests are managed, either by Mother Nature or by humans, so the true value comes from having “healthy” forests.

Taking an active role in management can improve the health and well-being of the forest by mitigating conditions that make the forest more susceptible to damage from fire, insects or disease. Because forests live for a long time, we begin by working with landowners to analyze each specific tract of land, creating a plan based on tree species, age classes, density and the other factors that make it unique. If the timber is young and prolific, we might use thinning techniques to promote tree growth and biodiversity. If trees are large and mature, a more intensive prescription might be appropriate. This would encourage young growth and new food sources for wildlife. Such management plans result in better soil and water quality, protection of biodiversity, preservation of areas of historic or religious significance and increased recreation opportunities. By balancing the ecological, social and financial benefits, we are ensuring our own health along with forest vitality.



Are trees a “crop” like vegetables, grains or cotton?

∨ In some ways trees can be considered much like other crops. They are established, tended to and when they reach maturity, they are harvested.

And of course, they grow back, in most cases through natural re-seeding and regeneration. But in other ways, forests are much more complex than crops like corn or cotton. For example, working forests have a high level of biodiversity in terms of age classifications, animal populations and vegetation species. Food crops tend to be monoculture stands that do not allow access for recreation. And unless a farmer is using organic farming techniques, there are much higher levels of herbicides and pesticides applied to conventional crops than to trees, which usually flourish on their own.



What is the difference between harvesting and deforestation?

↘ Deforestation means converting a forest from timberland to another use such as agriculture, ranching or urban sprawl.

Many people believe paper companies participate in deforestation, but we stay in business by sustaining forests. Therefore, we rely on harvesting techniques designed to minimize the impact to the other components that make up the forest, such as water, wildlife, soils, etc. For instance, thinning stands allows the residual trees to get more sunlight so they can grow to their full potential. Or we'll create a canopy opening to encourage species diversity, which also provides animals with adequate food. These techniques allow the trees to constantly regenerate, ensuring forests remain healthy and much less susceptible to destructive fires, diseases or insects. But, since harvesting also yields more valuable forests by promoting higher fiber yield or the growth of high-value species, people have questioned our motives. Since the nineties, with the advent of forest certification, third-party verification insures that we use only sustainable management practices that promote the long-term vitality of the forest while boosting local economies.

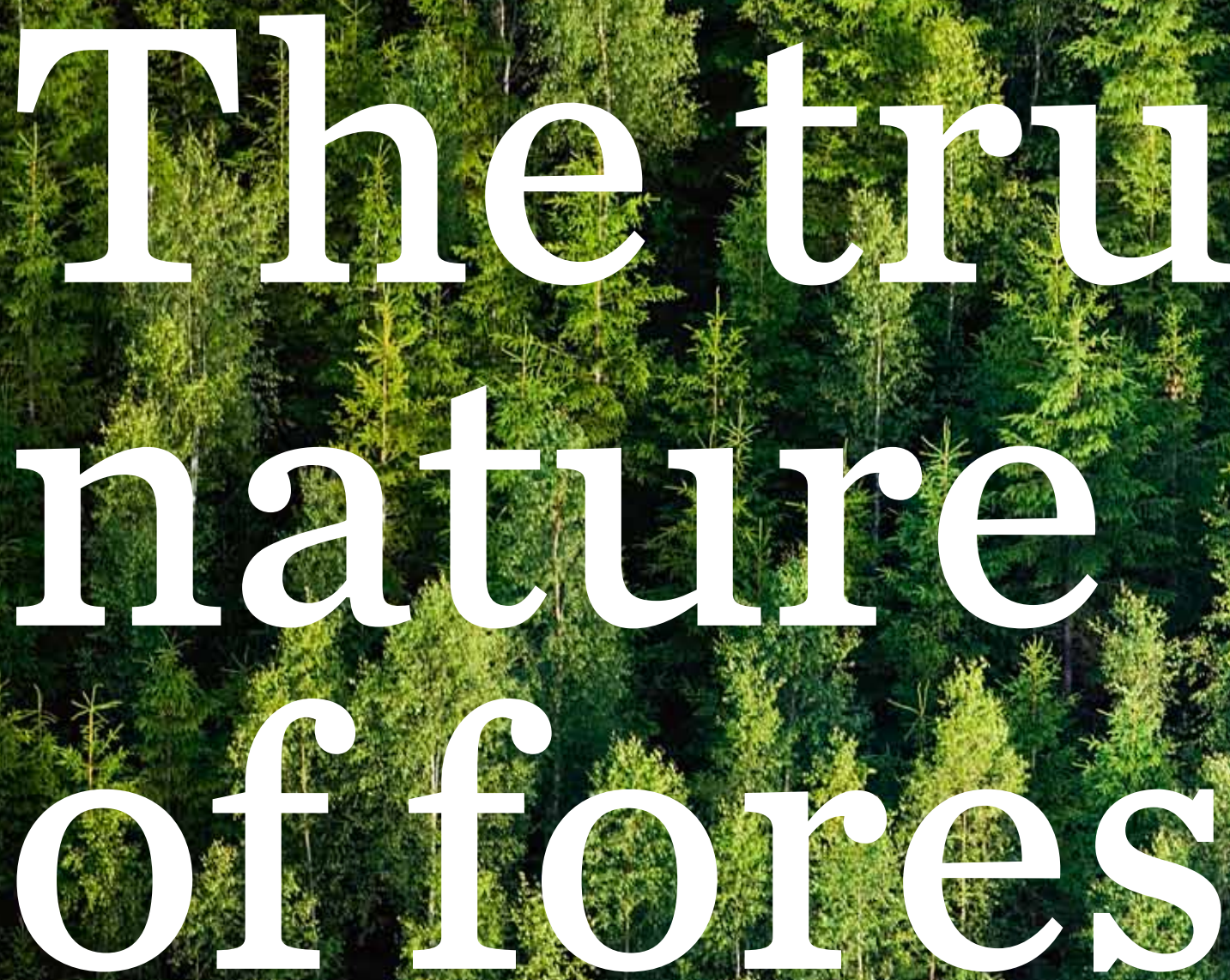


What type of wood does Sappi use and why is it important?

↘ First, let's start with the trees we do not use.

We are not cutting down rare and slow-growing species like Giant Sequoia or Coastal Redwood, or harvesting trees in National Parks like Yellowstone or Yosemite. Instead, we use trees that are enormously abundant in the area in which we harvest. Also, by focusing on thinning the population of pioneer species like Aspen and Birch, which grow rapidly but don't live long, we can promote biodiversity by giving other species a chance to take root. For instance, in Minnesota where our Cloquet Mill is located, Aspen is the most common tree in the state and is therefore the most harvested tree. In Maine, home to our Somerset Mill, Spruce/Fir and northern hardwoods like Maple and Birch dominate the landscape and are therefore harvested more than other species.

Using a variety of sources not only makes sure that no particular species is over-harvested but also plays an important part in paper manufacturing. Paper is incredibly strong for how thin it is, and that's because of the long fibers from softwood trees like Spruce, Fir and Pine. But softwood fibers have a rugged feel to them, so they are mixed with the short fibers of hardwood trees to give paper that smooth finish perfect for print.

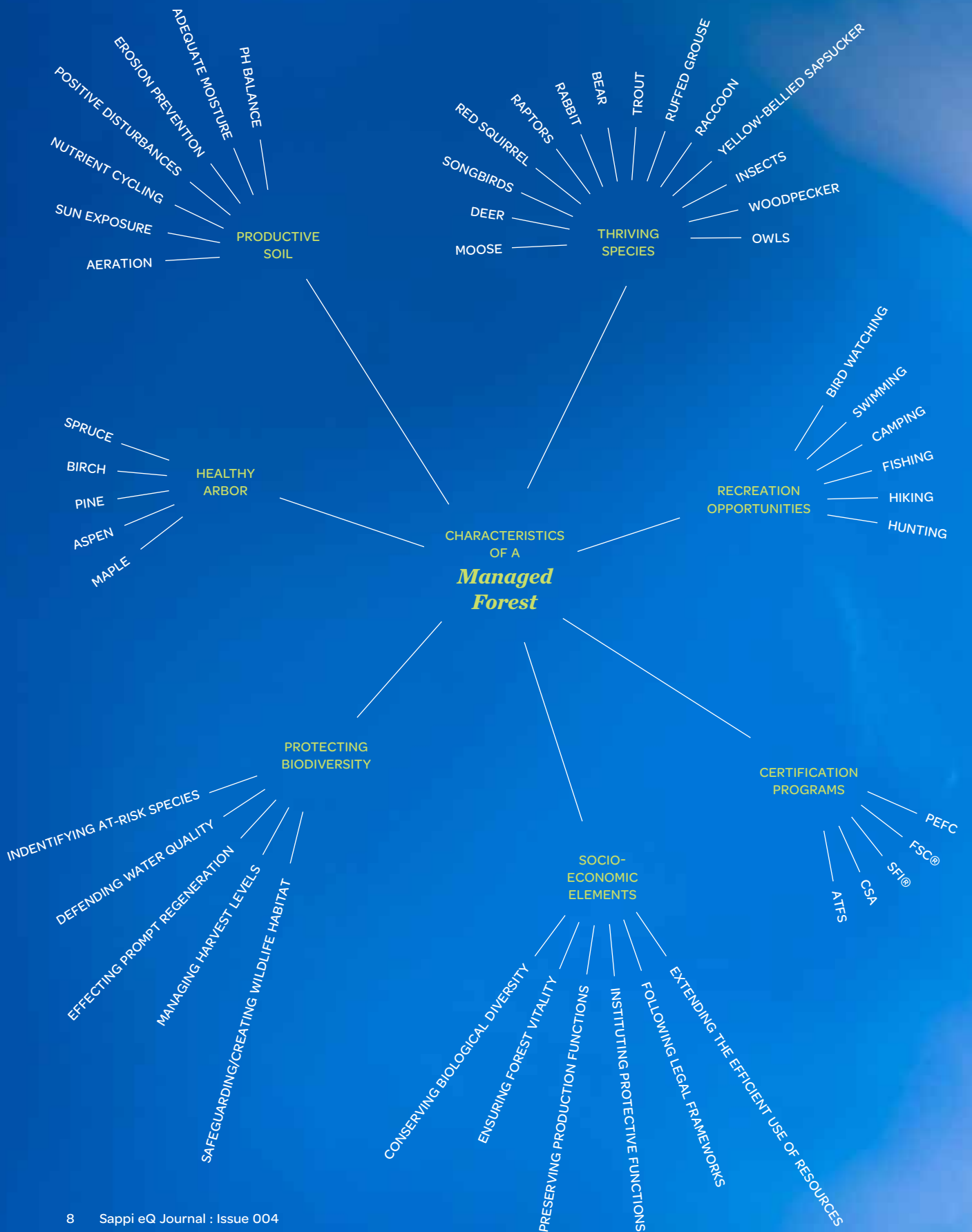


The true
nature
of forests

e

try







► INTRODUCTION ►

SUSTAINABLY MANAGED FORESTS

› Every day, we hear messages saying that using trees to make paper is bad for the earth, bad for the environment, bad for wildlife. This is simply not true. In fact, sustainable management creates more trees and saves animals – all while preserving the longevity and biodiversity of our timberlands; that's

why there are now more trees in the U.S. than there were 100 years ago. Thankfully, it's not too late to stop believing the hype and to start understanding the truth about paper and how the forest products industry is actively working to protect our woodlands for generations to come.

White Birch

Betula papyrifera

Birches provide food for animals like the Yellow-bellied Sapsucker, which drills into the tree, allowing sap to run out to attract insects to eat.



White, Red and Black Spruce

Picea spp.

The Spruce's four-sided needles allow it to take advantage of water whenever it is available and thereby flourish in poor and dry soil.



Maple

Acer spp.

The ability to self-pollinate and sprout new trees from their stumps makes Maples common in the U.S.



Tree Bark

Beneath the bark, healthy trees have an orange layer called the phloem, which transports nutrients from the leaves to the rest of the tree.



White Pine

Pinus strobus

Pine bark is used in teas and foods by Native Americans, and it is an important food source for many animals.



White Pine Cone

Pinus strobus

After taking two years to mature, these cones are dispersed by the wind, and then open and release winged seeds.



Aspen

Populus tremuloides

Aspen saplings need open sunlight to flourish.



White Birch

Betula papyrifera

Birch is a versatile tree thanks to the presence of betulin in the bark, making it resistant to water, bacteria and fungi.

➤ ARBOR ➤

FLOURISHING IN A MANAGED FOREST



Aspen Bark

Populus tremuloides

Aspen's greenish hue allows it to photosynthesize during the winter.

Silvicultural Revolution

≠ EVERYTHING IN ITS PLACE

“A forest is like a garden or a population of people,” says Gary Erickson, regional manager of wood fiber and fuel procurement for Sappi in Cloquet, Minn. “For it to survive you need diversity.” This is because nothing in nature, from the smallest insect to the tallest tree, can survive on its own. To this end, in the forest, each tree performs specific functions, which can mean either relying on or helping another species. Each part of the tree—from the roots and trunks to the leaves and seeds—has a job to do in order to help the tree take root and grow. By procuring wood from managed forests that maintain a variety of species in varying age classes, paper companies play an invaluable role in ensuring forests and its inhabitants flourish in ways that would be challenged if left to Mother Nature.



Lichen

The presence of lichens on trees signifies that the air nearby is relatively pure.



Growth Potential

» ASPEN, MAPLE, WHITE BIRCH,
WHITE PINE, BLACK SPRUCE



» Trees. It's a simple word that encompasses tens of thousands of species worldwide, many of which play special roles in our lives. Some, like the California Redwoods, personify our national spirit of preservation, while others, like a strong Oak tree that holds a child's tree house, symbolize a proud family's roots. And just as certain trees signify different values to us, the various species all have special needs

that must be met to guarantee they not only survive but truly thrive. Given that these trees are our lifeblood, at Sappi our foresters are extremely knowledgeable about the species of trees we use in our products. This not only allows us to supply our customers with the highest-quality paper, but also ensures that we will always see the forest for the trees.



ASPEN A pioneer species, Aspens need direct sunlight to grow. Abundant and quick to regenerate, they live 50–60 years, and represent the first generation of a forest.

MAPLE Pioneer species give way to this slow-growing tree. Because its fibers are short and smooth, it is added to paper to make writing and printing easier.

WHITE BIRCH Aspens often give way to White Birch, which is easily identified by its white and black bark.

WHITE PINE Typically, the final stage in the life cycle of a forest is a Pine stand. White Pines rise rapidly to over 100 feet tall. For regeneration, they are dependent on a disturbance, like harvesting, to open the forest canopy and expose mineral soil.

SPRUCE Very tolerant of shade, Spruce grows in dense stands that make great animal habitat. Its long fibers are key in giving paper its strength.





Eastern Squirrel
Sciurus carolinensis



Eastern Chipmunk
Tamias striatus



Whitetail Deer
Odocoileus virginianus

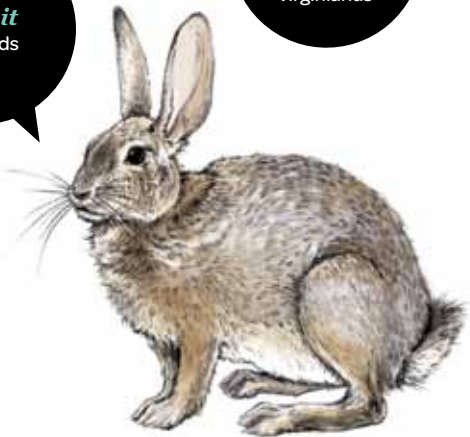


American Marten
Martes americana



Black Bear
Ursus americanus

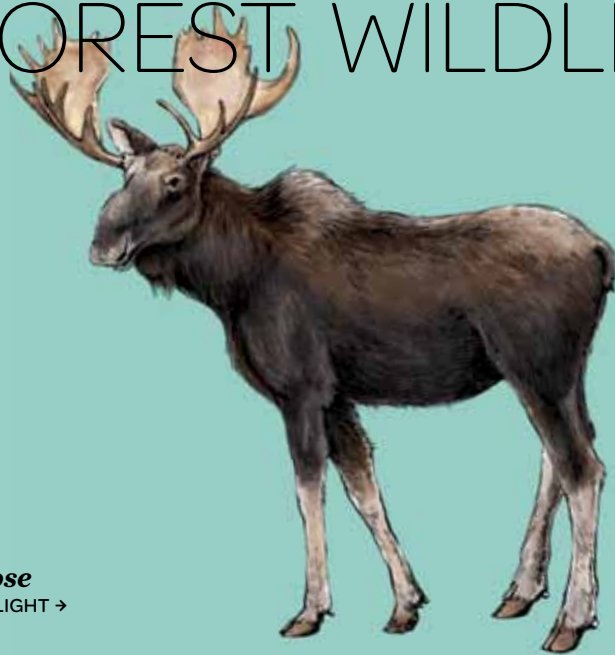
Rabbit
Leporids



Brook Trout
Salvelinus fontinalis



THRIVING FOREST WILDLIFE



Moose SPOTLIGHT ►

The decline in the northern Minnesota moose population has been attributed to a lack of forest management. “Some wildlife managers believe that the current fires in the Boundary Waters may help the moose population, which tends to do better in a younger forest,” says Dr. Alan Ek, head of the Department of Forest Resources at the University of Minnesota. “Clear-cutting, in some respects, mimics the natural disturbance caused by fire.”

► The native animal and fish species in the United States are dependent on trees for habitat, food and clean water. But many people often fail to recognize that trees are just as dependent on animals for dispersing seeds, fertilizing soil and transferring pollen.

Forest products companies have long known this connection, so while protecting wildlife habitat should be a priority for all companies, our industry has always been especially vigilant in wildlife conservation. After all, both the companies and the animals rely on trees to survive and this arrangement has worked: animals get a varied habitat, landowners get a healthy, regenerating source of income and consumers get useful wood and paper products.

In the last decade, because many forest products and paper companies divested their land, the industry has become reliant on private landholders.

Since many of these private landowners are new to forestry and are still learning how best to manage their land as wildlife habitat, paper companies like Sappi offer on-staff wildlife biologists and certified foresters to assist their

suppliers. “We educate landowners on forestry issues and the benefits of harvesting in terms of maintaining or attracting diverse wildlife,” says Gary Erickson, regional manager of wood fiber and fuel procurement for Sappi in Cloquet, Minn.

A key element for sustainable land management for wildlife is knowing the local and state wildlife regulations and working with administrators to protect sensitive species. “We send property boundary locations to state agencies, and they assess them in relation to plant and animal communities on the landscape,” says Katie Cousins, Sappi wildlife biologist and forester in Skowhegan, Maine. “If a species of special concern is present, we will come to an agreement on the appropriate management in that area depending on the animal species.”

Along with working within regulatory parameters, Sappi also works with wildlife conservation groups to spread the message about how proper forest management can both preserve and improve wildlife habitat for animals and make economic sense.

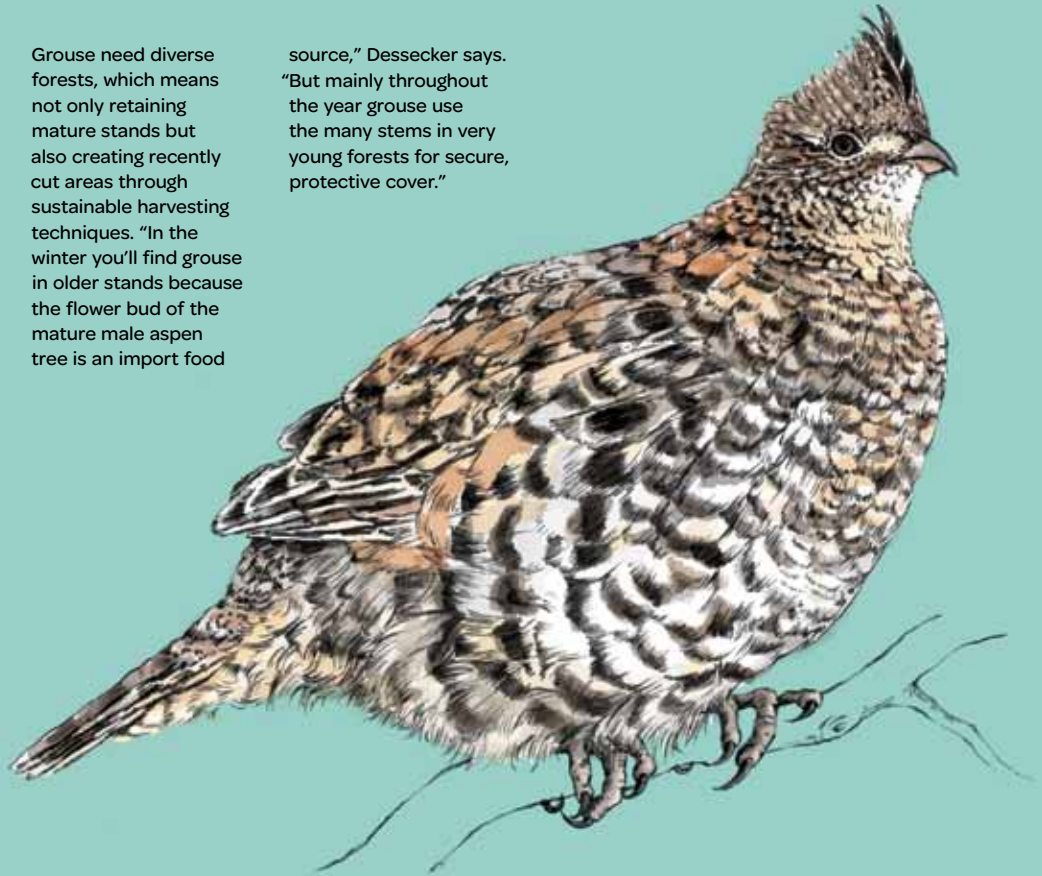
“Forest product companies need to provide a return to their shareholders, but our interests are very consistent with theirs,” says Dan Dessecker, director of conservation policy for the Ruffed Grouse Society. “Our biologists work closely with them on a local basis to give input as to how to manage a tract of land for the forest diversity that grouse need.”

And lest you think the Ruffed Grouse Society only cares about game birds, Dessecker says other species also benefit from living in areas from which trees are culled. Songbirds like the

Ruffed Grouse SPOTLIGHT →

Grouse need diverse forests, which means not only retaining mature stands but also creating recently cut areas through sustainable harvesting techniques. “In the winter you’ll find grouse in older stands because the flower bud of the mature male aspen tree is an import food

source,” Dessecker says. “But mainly throughout the year grouse use the many stems in very young forests for secure, protective cover.”



In our minds and in nature, birds and trees are inseparable. A short walk in the forest shows the importance of trees to birds, from food and nests to perches, hiding places and communication hubs. Birds in turn do play a significant role in the lives of trees. For example, not only do birds spread tree seeds, but thanks to their digestive system, they also help to germinate them. Furthermore, birds feed on insects that can destroy trees, thereby reducing tree damage from defoliation or bark infestations.

Eastern Towhee, Blue-winged Warbler, Prairie Warbler, Yellow-breasted Chat and White-eyed Vireo, as well as countless small animals, “thrive in young forests,” he says.


But all animals are unique, and there are different cutting techniques that promote the survival of specific creatures. “To manage for a canopy species like Cerulean Warblers, you harvest with a light touch,” Dessecker advises. “But for the endangered Kirtland’s Warbler, which need young stands of Jack Pine forests, you use a regeneration harvest.”

In other instances, patch cuts, which create openings in the forest, can help various animals. “This technique promotes the growth of a lot of new regeneration in the few years following the harvest,” says Cousins. “That’s high quality browse habitat for deer and moose and it also provides good cover for a lot of small mammals.” Thankfully, with a wildlife biologist like Cousins on staff, Sappi is able to recognize specific species habitat and thereby determine which harvesting style to employ.

While knowing how to cut is imperative, understanding what trees not to harvest is just as important. Though it is rare, “no harvest” zones can be the result of an endangered species making its home in the area. More often, foresters forgo cutting because they uncover a resident species that simply prefers old growth trees, like the Red-shouldered Hawk. “That’s a bird that requires a mature riparian forest,” Dessecker says. “If you have a stand that’s providing them quality habitat, you just leave it.”

Along with leaving specific swaths of territory untouched, foresters also know which individual trees are or will be important to native animals, and keep those trunks standing. “If we see Beech trees that bears have climbed to gather nuts, we leave them,” says certified logger Mike Kelley. “Also, mature trees with cavities that are good dens for raccoons or squirrels are typically excluded from the harvest.”

Not only do the needs of wildlife influence how we cut (or not cut) a forest, but oftentimes when it is cut. “Deer need hardwood




Golden-winged Warbler
Vermivora chrysoptera



Yellow-breasted Chat
Icteria virens



White-eyed Vireo
Vireo griseus



Cerulean Warbler
Dendroica cerulea



American Woodcock
Scolopax minor



Blue-winged Warbler
Vermivora pinus



Downy Woodpecker
Picoides pubescens

habitat, but are more reliant on softwood habitat in the wintertime when they need protection from the snow,” says Cousins. “If you can extract selected mature hardwood out of a softwood wintering area, it allows the softwood canopy to close back in over time, improving the deer’s winter habitat.”

Despite the fact that the forest diversity that results from cutting is a must for many species’ survival, there can be obstacles in pursuing this course of action. “There are well-funded preservationist organizations out there that simply go ballistic every time you propose cutting a tree,” says Dessecker. He adds that this lack of management has led to our forests getting older and one-dimensional, which has manifested itself in an increasing lack of suitable terrain for many animals.

For instance, the Golden-winged Warbler is being considered for protection under the Endangered Species Act because of a “loss of such habitat due to reforestation and fire suppression” according to the U.S. Fish & Wildlife Service.

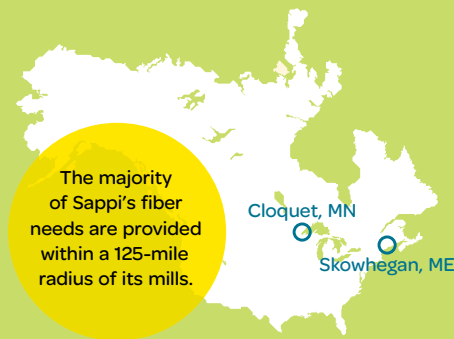
And it is for the Golden-winged Warbler and the countless other animals that live in our forests that Sappi continues to cut timberland in a thoughtful manner. Sustainable management techniques save forests and allow them to flourish, while serving to protect and increase animal populations. After all, we’re the first to acknowledge, a forest without animals will inevitably become a forest without trees.



Correctly managing a forest relies on compliance and diligence both in the woods and in the office.

➤ Sappi routinely visits sites to make sure harvest plans comply with Best Management Practices (BMPs) and all cutting is done properly.

➤ Our Chain of Custody (CoC) certification is dependent on product traceability, storage and handling, invoicing, and record keeping practices being confirmed by an independent third party.



➤ SUSTAINABILITY ➤

SAPPI'S BEST PRACTICES

"In Minnesota, private landowners make up 56% of the land ownership, so they are an important source of our fiber," says Ross Korpela. "Our field foresters assess their timber, learn their objectives for the property and create a plan that fits their needs as well as the BMPs." When it comes time to cut, we go to great lengths to ensure sustainable harvesting. "We provide training to the foresters on the ground by supporting entities such as the Minnesota Logger Education Program," says Korpela. "We also make sure to visit harvesting sites to touch base with our loggers, ensuring that everybody's well trained, understands the BMPs and implements them on the ground as they manage the resources."

➤ A flourishing forest provides a great many things—clean air, drinkable water, recreational opportunities, animal habitat, beautiful scenery, cool shade and, yes, paper and wood products.

But what determines a healthy forest and how do you keep it that way? A lot of people will tell you a fit forest is purely an old-growth forest and that you keep it in tip-top condition by never, ever cutting it. But in fact, neither of those statements are true.

Actually, the true hallmark of healthy timberland is biodiversity, which means there are a lot of different species of different ages all living together. In terms of trees, Dr. Alan Ek, head of the Department of Forest Resources at the University of Minnesota, says that across a landscape you want to have a mix of young, mature and old forests at all times. "And," Ek adds, "the only way to maintain that diversity is by management."

Of course, paper companies didn't invent the concept of forest management. "Mother Nature has been managing forests forever," says Ross Korpela, senior wood procurement manager for Sappi in Cloquet, Minn. But the natural aspects of forest management—fire, disease, insect infestations, high winds—are not

only extremely destructive but also tremendously costly to taxpayers, with the federal government spending \$3 billion annually solely to fight wildfires.

To allow forests and everything connected to them to reap the benefits of these natural tree-culling events without experiencing their negative effects, Sappi has and continues to cut trees in a very conscientious and respectful manner, a system that has evolved into our present Best Management Practices (BMPs). This practice allows our paper to be certified as environmentally sustainable by the Forest Stewardship Council (FSC®), Sustainable Forestry Initiative (SFI®) and the Programme for the Endorsement of Forest Certification (PEFC).

Covering everything from harvest planning and tree selection/exemption to road building and water-protection (see the following page for more information on specific BMPs), our BMPs are a set of techniques and rules that our foresters must follow while they are cutting, removing and transporting lumber.

"Essentially these modern forest harvest techniques mimic the gentler aspects of Mother Nature while providing fiber to meet society's needs," says Korpela. "That means we are cutting trees in the manner nature intended. The result is, we are creating better forests while also providing economic and environmental benefits to the entire population. It is the quintessential win-win situation that insures healthy outcomes for everyone and everything."



↑ Ⓞ RISE OF GENTLER MACHINES

Exit the chainsaw. Enter the feller-buncher, a long-armed vehicle that not only cuts trees but also gathers them. These machines cause less residual damage to nearby trees by eliminating the “timber” effect and protect delicate forest ecosystems by being less invasive. “Some have a 50-foot reach so you can harvest a sensitive area,” says Ross Korpela. “Because there will be less rutting you’ll get regrowth in what would be a heavier soil area like swamps.” Depending on the type of environment where bunchers and other vehicles are used there are lots of wheel options available—from high flotation or wide skipper tires to loop and long tracks—that are light on the ground while providing just the right amount of soil disturbance to promote regrowth.

CLEARING THE AIR

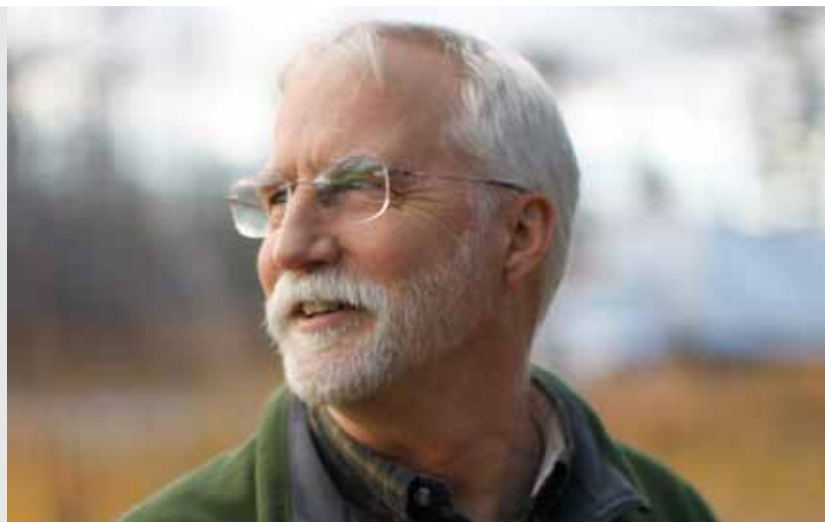
“I’d say that clear-cutting and the disturbance that it provides is widely misunderstood by the public,” says Dr. Ek. Looks can be deceiving, so while people see a clear-cut and think they are viewing the death of a forest, that open land, though not pretty, actually signifies a re-birth for the trees. That’s because tree growth is essentially sunlight driven. Therefore, as Korpela notes, a heavy harvest gives important “pioneer

species like Aspen and Birch the direct sunlight they need to be their most vigorous and effective.” Furthermore, the direct sunlight on the soil provides the necessary heat to germinate the new seeds that have been dropped and buried during the harvest. And the trees aren’t the only benefactors of this harvesting technique. “The disturbed site has pretty rich vegetation coming back,” says Dr. Ek. “And for a number of animal species this growth is an important food source.”

Gary Erickson

REGIONAL WOOD PROCUREMENT MANAGER ▾

“We educate landowners on forestry issues and the benefits of harvesting in terms of maintaining or attracting diverse wildlife.”



← Ⓞ 'TIS THE SEASONS

The time of year you choose to harvest depends on the forest’s identity. “Summer harvesting opens up a range of practices to get multiple species growing,” says Korpela. “In warmer months, soil scarification allows a variety of seeds to imbed in the mineral soil.” This is especially important when promoting Birch or Pine growth, because as forester Katie Cousins says, “the machines stir up those thick needles and help get the new

seeds down into the soil.” Conversely, winter harvesting promotes monoculture growth, especially when it comes to Aspens because they regenerate from buds on their roots that begin growing when the tree is cut. Winter cutting is also important for Aspens because, as a vigorous species, they inhibit the growth of other tree types if summer-cut. Furthermore, winter harvesting benefits some ecosystems, because in frozen conditions highly sensitive soil is protected from rutting.



Scan this code to learn more about Sustainable Forestry.



← ⓘ CLEAN WATER ACTS

There are a host of practices that help protect water quality during a harvest. Each forester lays out riparian zones, areas abutting waterways and ponds that are important for soil stability, filtration and wildlife habitat. "If there is a river or stream, we create an extensive buffer strip so there's no cutting in that area," says certified logger Mike Kelley. For sizable water crossings, skidder panels are placed over the stream so that the water and banks are not disturbed. For a smaller stream, culverts are inserted to allow water to continually flow without having any dirt or silt entering into it.

"I like to hunt and fish and want to be a good steward of the forest to promote that for future generations. You use the forest, you love it, and you need to take care of it."



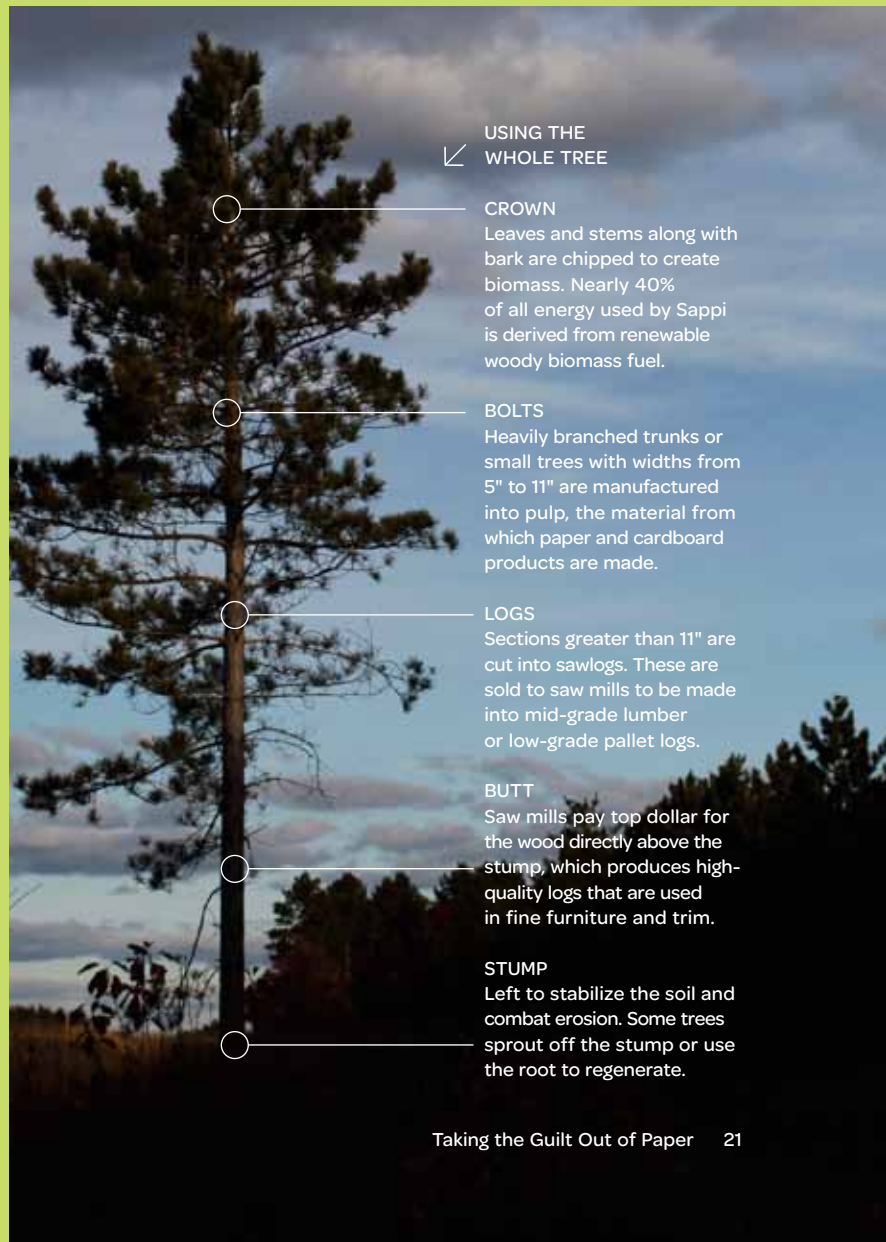
ROSS KORPELA
SENIOR WOOD PROCUREMENT MANAGER, SAPPI



↑ ⓘ ON THE RIGHT PATH

"To effectively and efficiently harvest the timber you need access," says Ross Korpela. "We make sure these routes are built according to specifications that protect and support the soil and water." That means constructing roads with crowns and creating culverts and ditches to ensure proper drainage. Stabilization and erosion protection are also added to skid

trails, the temporary corridors used to drag logs out of the forest. "We put tree tops on the trails so it gets turned into fine mulch, which decomposes so the nutrients will remain on the site," says Mike Kelley. "Once we harvest an area, we go back and add water bars so that any runoff will be kicked off to the side of the trail, minimizing erosion."



↙ USING THE WHOLE TREE

CROWN

Leaves and stems along with bark are chipped to create biomass. Nearly 40% of all energy used by Sappi is derived from renewable woody biomass fuel.

BOLTS

Heavily branched trunks or small trees with widths from 5" to 11" are manufactured into pulp, the material from which paper and cardboard products are made.

LOGS

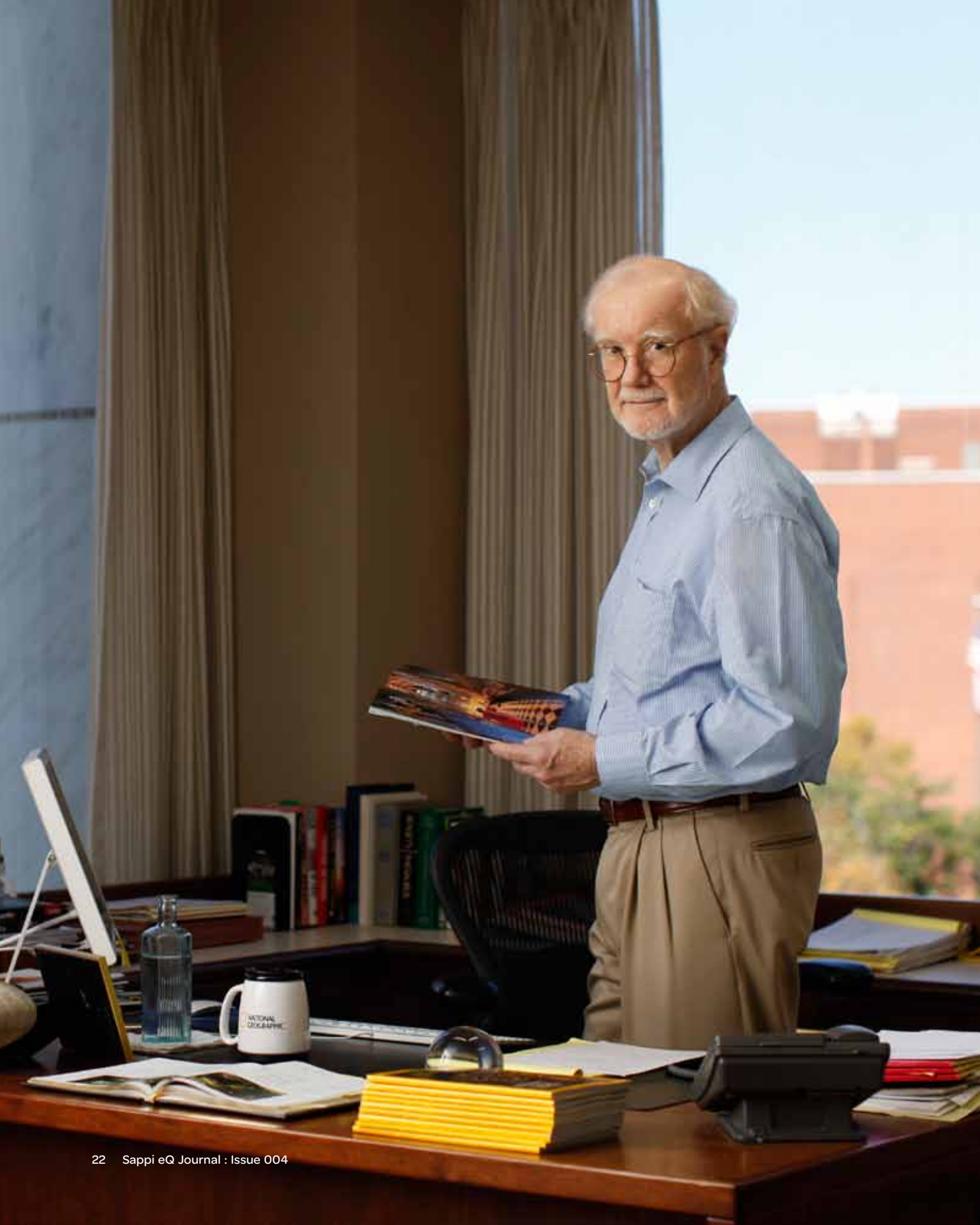
Sections greater than 11" are cut into sawlogs. These are sold to saw mills to be made into mid-grade lumber or low-grade pallet logs.

BUTT

Saw mills pay top dollar for the wood directly above the stump, which produces high-quality logs that are used in fine furniture and trim.

STUMP

Left to stabilize the soil and combat erosion. Some trees sprout off the stump or use the root to regenerate.



The fact is that trees are 100% renewable and when we allow forests to self-seed, which is faster and promotes the growth of indigenous species, we're supplying sufficient new trees to be sustainable and achieving carbon sequestration.

HANS WEGNER

National Geographic's policy to only procure paper from businesses that follow environmentally sound forestry practices has led the organization to do its part in helping landowners get certification for their forests. "This year we worked with Sappi Fine Paper and Verso Paper Corp. as well as publishers Hearst and Time Inc. to underwrite the cost of certifying 790,000 acres of Maine forest," Wegner says. "We think that is a significant contribution to sustainability."

» Working so closely with paper manufacturers, Hans Wegner has gotten a firsthand account of the state of the forest industry, and, for the most part, he likes what he sees. "Most of the forests are being managed very well for the next generation," Wegner says. "They've improved their mills, their harvesting and their replanting practices."

To paraphrase Mahatma Gandhi, Hans Wegner is the change he wishes to see in the world. Working for the National Geographic Society (NGS), an organization known for spotlighting resource depletion and climate change, Wegner, who was then overseeing the magazine's printing production and quality control, volunteered to take part in NGS's Go Green Committee.

Soon, after helping to craft a vision statement outlining how NGS can "walk the sustainability talk," Wegner was named Chief Sustainability Officer. While maintaining a role in print production, Wegner was quick to focus on the environmental impact of publishing one of the world's most identifiable magazines.

He quickly realized, while most people see paper as a threat to forests, this really isn't the case. "The printing and publishing business has clearly been targeted around the issue of trees, but trees are not the most important part of that," Wegner says. "The fact is that

trees are 100% renewable and when we allow forests to self-seed, which is faster and promotes the growth of indigenous species, we're supplying sufficient new trees to be sustainable and achieving carbon sequestration."

And understanding the greenhouse gas impact of paper products is critical. An assessment of the life cycle (LCA) of *National Geographic* commissioned by Wegner found that carbon emissions for twelve copies of the magazine equal just 21.84 lbs. "I get frustrated with people who say 'magazines are the problem,' when an annual subscription to *National Geographic* is equal to using a gallon of gas in your car."

And since he is always working to lessen the environmental impact of the magazine, he does take some comfort in knowing that the carbon footprint of the magazine is something he can quantify, unlike the impact of the online version. That's because, while the majority of the general public may think that electronic is the better medium for the environment, Wegner isn't so sure.

"We don't know the environmental impact of saving a document on a server for ten years or more," Wegner says. "And we have no idea of the impact of extracting finite resources to make electronic devices that cannot easily be recycled safely and practically." Wegner goes on to say that with no one studying the carbon emissions and global climate change consequences of this technology, it might appear that we are in denial about the impact of the digital revolution on climate change.

“A single page has both elegance and simplicity,” Wegner says. “And I like how paper feels in my hand.”



“And once these technologies take hold, and greenhouse gases are released into the atmosphere,” he says, “we cannot put them back in the box.”

Given his passion for sustainability, it comes as no surprise that one thing Wegner knows a lot about is recycled paper. “I’ve spent 30 years studying recycled fiber,” Wegner says. “In the eighties and nineties we used a lot of recycled paper to help create a demand for recovered fiber.” But now he says that it makes very little sense for NGS to use recycled paper in the magazine considering that countries like China are creating a huge demand of recycled fiber to manufacture items like packaging and paperboard.

“If we don’t supply these countries with our recycled fiber they are going to buy fiber from countries in Southeast Asia where there are very few controls in place to assure sustainable harvesting practices. Worse, where they will not be replanted with trees, but where the land will likely be converted to agricultural use,” Wegner says.

Furthermore, since his LCA study showed that there was no carbon gain for using 5% or 10% recycled paper versus using virgin paper, he concluded that the most sustainable option for NGS was to source his virgin paper from suppliers that get their fiber from certified forests in the United States.

Some of these changes have come directly from people like Wegner holding suppliers accountable to being sustainable in their operations, but others are the result of the forestry companies wanting to do just what NGS is doing—going green while saving green.

And though he is encouraged by what he sees so far, that doesn’t mean this one-man watch group is stopping his crusade. “Going forward there is going to be more demand for fiber so we have to continue to be smart about how we use our forest resources,” he says.

But as long as there is sustainable harvesting, replanting and manufacturing, Wegner sees paper continuing to hold a special place in society and with companies like his. “Paper got National Geographic where we are today,” Wegner says. “We built our reputation on paper, especially on how great a glossy photograph looks on a premium sheet.”

And beyond his corporate connection, Wegner, like many of us, also has a personal relationship with paper. “A single page has both elegance and simplicity,” he says. “And I like how paper feels in my hand.”

NATIONAL GEOGRAPHIC SOCIETY SUSTAINABILITY PROGRAM

↘ RECYCLING

NGS has 17 different receptacles for recycling and composts all waste.

↘ ALTERNATIVE FUELS

NGS buys wind power to make their four-building complex carbon neutral.

↘ CARBON FOOTPRINT

Video conferencing has cut back staff travel by 45%.

↘ LEED STANDARDS ①

In 2003, NGS’s headquarters was certified Silver; it was awarded Gold in 2009.

↘ GOOD FOOD ②

Nearly 25% of the food in the cafeteria is organic or local.

↘ MONARCHS ③

Special plants are placed in National Geographic’s courtyard to foster the dwindling Monarch butterfly population.

↘ BANNING PLASTICS

The cafeteria has replaced plastic flatware and containers with ones made of sugar cane pulp.

↘ LOCAL TRAVEL ④

NGS subsidizes mass transit and promotes biking to work.

↘ ELECTRICITY

Turning off computers at night saves the National Geographic Society \$120,000 a year.



NOW YOU KNOW THE TRUTH. MANAGED FORESTS ARE GOOD FOR THE ENVIRONMENT, GOOD FOR THE TREES AND GOOD FOR THE ANIMALS.→

But knowledge is nothing without action. Just like those scholars who defied convention to pronounce, “The world is not flat,” it is time for us to stand up for the truth: Demand for paper doesn’t destroy forests—it can actually sustain them and the animals that rely on them through the benefits of active, informed forest management. Knowing the truth doesn’t stop the onslaught of messages telling you that using paper is bad, but it does give you the opportunity to add your voice to the discussion. By adding one voice at a time we can begin to change perceptions so that people finally understand what paper companies like Sappi are doing to preserve and protect our treasured forests.

Spread the word – use these stickers to help remove the guilt around using paper. There are even some blank ones for you to add your own message.

**PRINTING RESPONSIBLY
PROMOTES WELL-MANAGED
FORESTS.**

**IN THE U.S.,
FOREST GROWTH
HAS EXCEEDED
HARVEST SINCE
THE 1940S.**

**SOURCE
WISELY. PRINT
WISELY.**

THINK BEFORE YOU DON'T PRINT.

The U.S. forest products industry is the largest producer of renewable biomass energy in the country.

**AMERICA'S PRIVATE
FORESTS. USE
'EM OR LOSE 'EM.**

**PAPER: THE
ORIGINAL WIRELESS
COMMUNICATION**

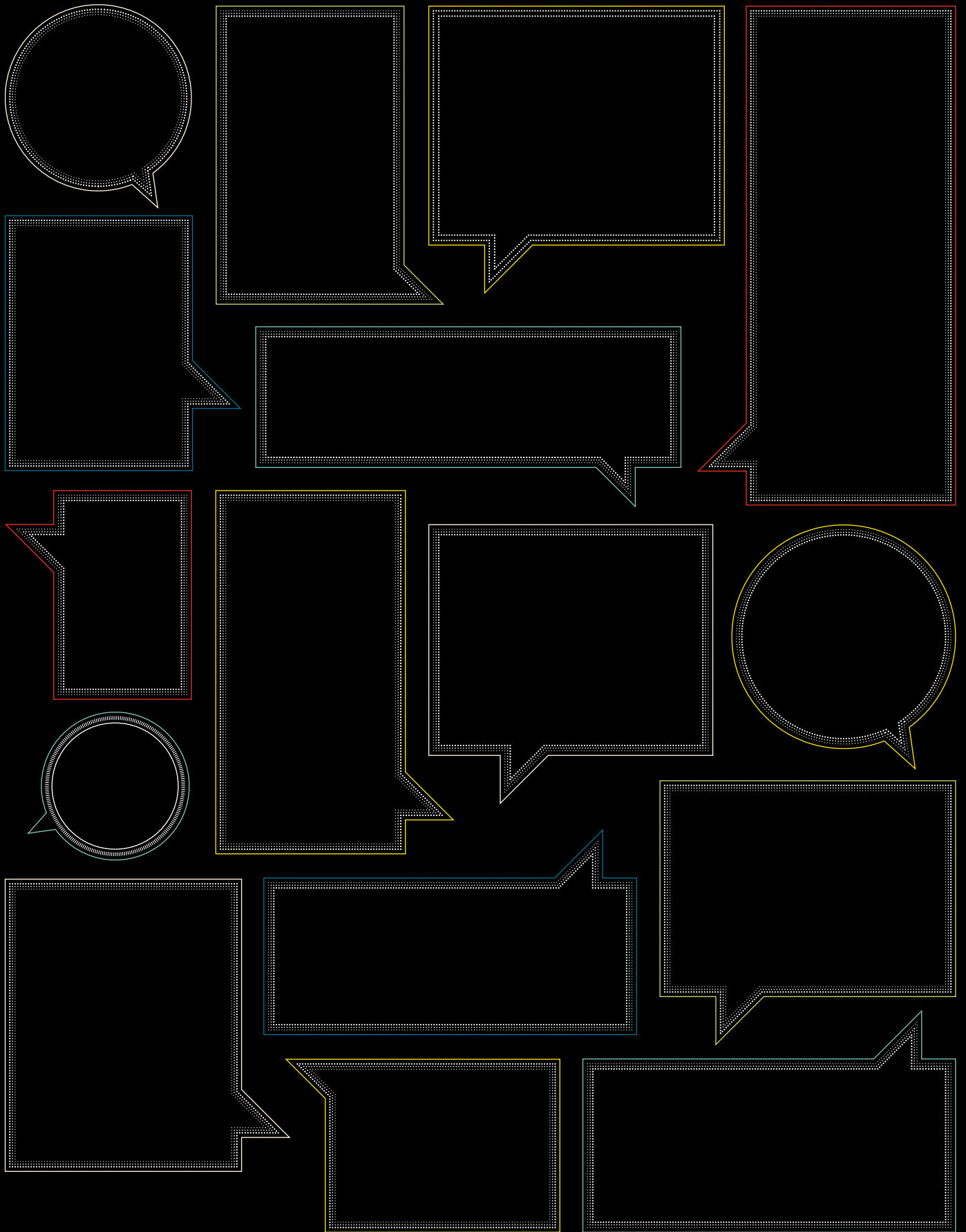
**THERE ARE MORE
FORESTS IN THE U.S.
TODAY THAN THERE
WERE 50 YEARS AGO.**

**PRINTING PROTECTS
OUR PRIVATE FORESTS.**

**PRINT IS
POWERFUL.
PUT IT ON
PAPER.**

**PRINT & HELP
RESPONSIBLE
FORESTRY GAIN
GROUND.**





→
ROSS KORPELA
SENIOR WOOD
PROCUREMENT
MANAGER

“Some people don’t know the heart and the soul that goes into forest management, and certification is a way to convince those people we’re doing the right thing.”

*More truths
about paper and forest
management.*



The majority of America's forests are privately owned.

These landowners keep their land forested because, for many of them, trees are a renewable source of income. If we stop using paper the economic advantage of forested land will disappear, forcing these landowners to make a living by selling off their holdings to developers who will replace trees with housing development and shopping malls.

WORLD BUSINESS
COUNCIL FOR
SUSTAINABLE
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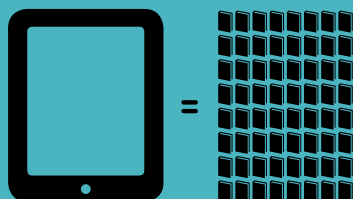
“By providing a market for wood, the forest products industry also gives forest owners an incentive to keep land in forest, as opposed to converting it to other uses that provide few or no carbon benefits.”

Many people ignore the fact that electronic devices carry an environmental burden.

➤ The Electronic Products Environmental Assessment Tool (EPEAT®) utilizes 51 different criteria for evaluating computer monitors alone. These criteria range from the use of sensitive materials such as mercury and cadmium, to paints or coatings that may not be compatible with recycling, to identification of components containing hazardous materials and more.

Because the life cycle and environmental impact criteria of electronic devices are so different than those associated with paper, we do not believe it is possible to make broad usage comparisons. Instead we encourage people to implement best practices and use both media platforms responsibly. We all use paper. And we all use electronic devices. Just as we encourage responsible use of paper, we would suggest the same with electronic communications. Don't send attachments unnecessarily and consider your distribution list. Every kilobyte of data transferred and stored consumes energy. Consider upgrading a device instead of replacing it. And make sure that e-waste is handled responsibly.

Visit www.epeat.net to learn more about the environmental impact of electronic devices.



63.4%

of paper was recovered for recycling in 2009

COMPARE THAT TO

25.5% of glass 20.3% of aluminum 7.1% of plastic

➤ Without a doubt there is a synergistic relationship between computers and paper. Paper gives reality and form to that which is created with all those inanimate 1s and 0s. We'll be the first to acknowledge that saving a document on your computer can be beneficial in terms of convenience and saving space, but there are perils associated with storing everything, especially sensitive documents, on your computer. For instance, the 2011 Norton Cybercrime Report found that over a 12-month period, adults suffered three times more instances of cybercrime than any other type of crime. Furthermore, those documents sitting on your computer are being housed in a server farm, a warehouse full of computers running 24/7 that corporate anthropologist Jane Anne Morris refers to as "a pig-in-a-blanket that consumes electricity in almost unimaginable quantities." So next time you are about to create a *New Folder*, think about whether it would be better for you and the environment to hit *Print* and then *Delete* before you *Shut Down* your machine for the rest of the night.



Biodiversity is a key component to carbon sequestering.

➤ Mature forests, because they have more biomass, store more carbon than young forests. But because young trees use carbon to grow, they capture more carbon, which they convert into their trunk, leaves and branches. "It's the young trees and forests that are most efficient in taking up carbon," writes John A. Helms, PhD, professor emeritus of forestry at the University of California, Berkeley. He adds, "Young trees' uptake of carbon dioxide greatly exceeds the loss due to respiration." Furthermore, products made from wood continue to hold on to their carbon until that product decomposes or is incinerated, meaning the bookshelves and books in your library are storing carbon and therefore not releasing it into the atmosphere.

20.5 months

A recent study by J.D. Power and Associates shows that the average customer keeps their mobile phone for around 20.5 months.

3-5 years

A typical computer should give you 3 to 5 years of good use before you need to look for a replacement or upgrades, according to CNET.com.

➤ LEARN MORE ➔

eQ ONLINE

➤ Everything eQ is in one simple place — so you have one primary source for guidance and thought leadership around environmental responsibility. Along with more in-depth information on sustainable forestry, you'll find a wealth of fact-based information and tools for making better choices around paper. And with our new eQ blog, *The Environmental Quotient*, you can instantly share your thoughts and ideas with your peers to gain new insights and help elevate the eQ of our entire industry.

Visit sappi.com/eQ.



Production Notes

FRONT COVER

Opus Dull Cover 100lb/270gsm, 4-color process, match green touch plate plus spot dull reticulating UV varnish and overall UV satin coating with dry trap triple hit of spot soft touch UV.

INSIDE FRONT AND BACK COVER

Opus Dull Cover 100lb/270gsm, 4-color process, match cream plus overall satin aqueous.

INTERIOR PAGES

Opus Dull Text 100lb/148gsm, 4-color process, match cream plus overall satin aqueous.

BACK COVER

Opus Dull Cover 100lb/270gsm, 4-color process, match green touch plate with dry trap double hit of spot soft touch UV.


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 If you choose not to keep this journal, give it to a friend or place it in a recycling bin. Thank you.

***Please send your updated
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we will donate \$5 to
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