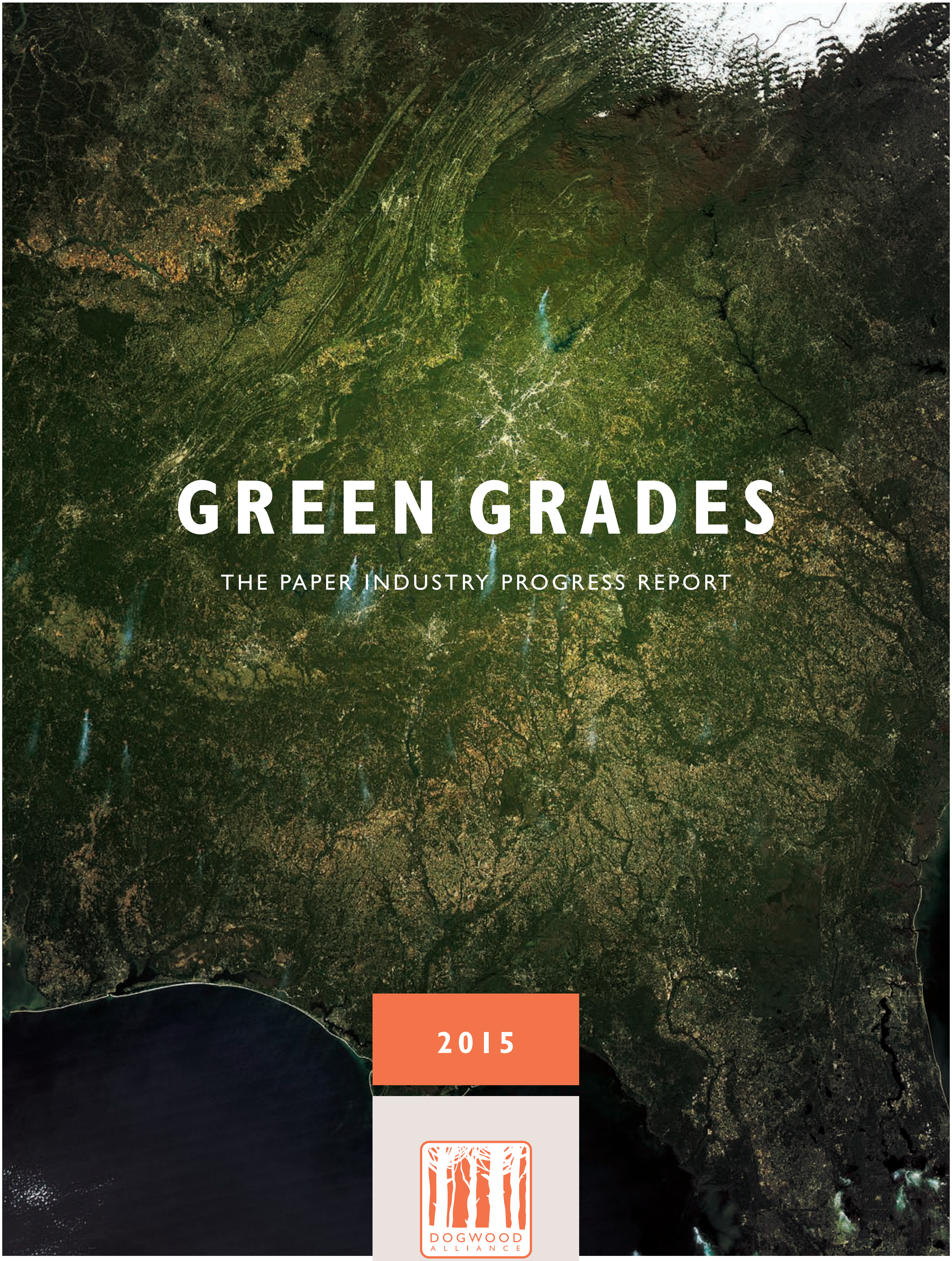


GREEN GRADES

THE PAPER INDUSTRY PROGRESS REPORT

2015

DOGWOOD ALLIANCE

GREEN GRADES

THE PAPER INDUSTRY PROGRESS REPORT

IN THE COMPETITIVE PULP AND PAPER INDUSTRY, there's an increasingly important way for companies to position themselves as leaders. A business's ability to deliver its products and services with fewer negative impacts on the environment sets it apart. A company's vision for a sustainable future is highly valued by consumers and business partners. Now more than ever, "green" translates to effective management of resources and a solid investment in the future.

Southern forests are the world's biggest wood and paper producing region. At the same time, these forests also provide a myriad of ecosystem services, including wildlife habitat, clean air and clean water, flood protection and carbon sequestration. Effective conservation, use and management of this irreplaceable resource are critical to communities, companies and consumers. Decisions made today about forest use will have repercussions for generations, not only in the South, but across the globe.

SINCE 1996, Dogwood Alliance has engaged in public campaigns to protect forests in the Southern US, the world's largest wood producing region. A major focus of this work has been to transform the practices of the pulp and paper industry, which has broad sweeping economic influence over the way Southern forests are managed. For over a decade, Dogwood has worked hard to convince large corporate consumers to adopt environmental paper policies. Thanks to these efforts, many office supply, paper packaging and fast food companies have made dramatic improvements in their paper sourcing practices.

New policies in these sectors alongside Dogwood Alliance and partners' hard-hitting campaigns have encouraged a number of large paper producers to meet customer expectations by adopting their own new policies and implementing new supply chain management practices for purchasing wood and fiber. The first of its kind, this report assesses the paper industry's progress towards improved practices in Southern forests. Our new Paper Industry Progress Report streamlines data on corporate results to focus on five key indicators directly connected to evaluating industry leaders' performance in the forests. By establishing indicators and criteria and assessing progress, this report provides transparency in assessing how these new corporate policies are actually working on the ground, to inspire a competitive race to the top and to create the space for deeper engagement between the public, large purchasers of forest products and pulp and paper industry actors operating in the woods of the Southern US.

Dogwood Alliance encourages large paper buyers to engage with their suppliers on these critical forest issues connected to Southern forests. We extend the same offer to the forest products industry itself. Continuous improvement is not only critical for our forests, community and environment, but good for the industry itself. Honest and open dialogue about progress made and challenges that remain is absolutely critical.

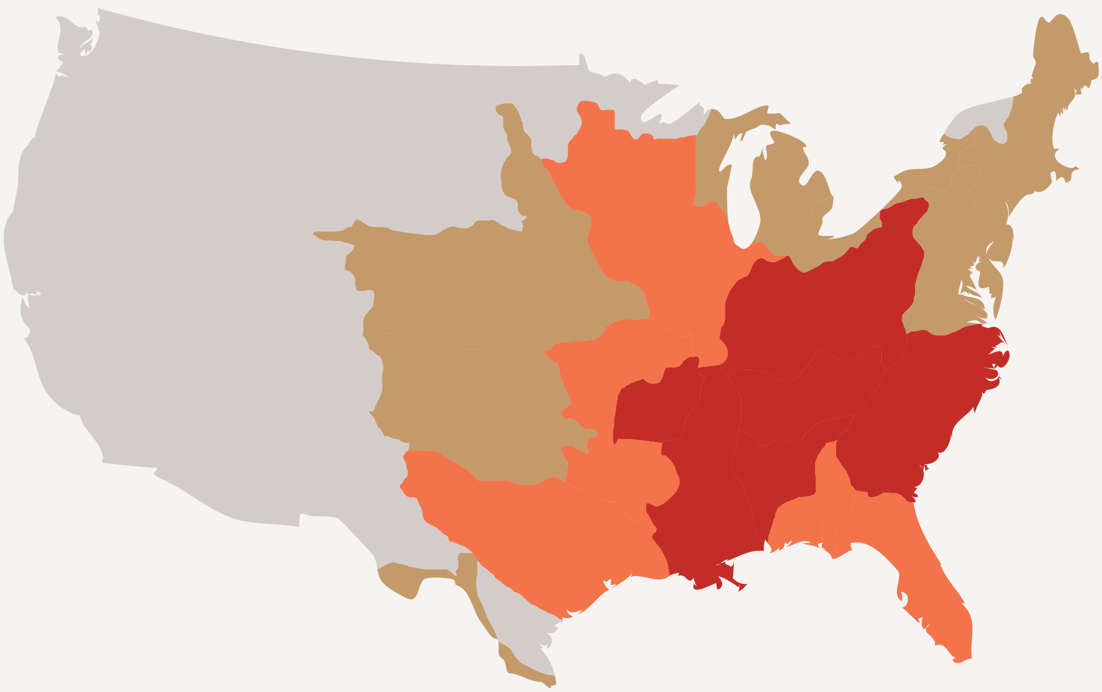
We found that three of the largest paper producers—International Paper, Georgia-Pacific and Domtar—are responding positively, adopting practices to meet customers' forest sustainability expectations. These paper industry leaders are embracing some key sustainability challenges of the 21^{st} century with smart and effective supply chain improvements that mean better results in the woods. Other companies have frankly not yet joined the sustainability revolution in the forest products industry. There is much more that can and should be done to green forest procurement practices. Leadership is needed and additional forest products industry players need to move forward along this path.

THE NEW BOTTOM LINE

This report analyzes the performance of five major pulp and paper companies in regard to their impact on forests of the Southern United States. Southern forests span thirteen states, from Virginia to Florida to the piney woods of East Texas and Oklahoma and up to the hardwoods of Kentucky and West Virginia. The region is 40 percent forested, covering approximately 214 million acres. This represents 29 percent of the total forestland in the United States. Forests are a defining feature of the South, but our forests are also globally distinctive: they are some of the most biologically diverse temperate forests in the world.[1]

The South hosts a high concentration of "species richness"–the number of species in a given area—and "species endemism"—the number of unique species found in a specific area and nowhere else. Southern forests support 3,000 species of plants, 595 species of birds and 246 species of mammals. Without more effective management and increased habitat protection, many species within these forests are under threat and at risk for extinction.[2] Maintaining these habitats and protecting species is critical to maintaining the health and resilience of these forest ecosystems.[3] One key threat to Southern forests is poor forest management. In 2012, over five million acres were logged across the region, an area larger than the state of Delaware.[4] Where and how the forest products industry sources the wood and fiber for the products we all need and use helps determine the security of the region's amazing biodiversity as well as the myriad other ecosystem services these forests provide.

SPECIES RICHNESS OF ECOREGIONS IN THE U.S.



300 - 147 species

150 - 199 species

200 - 299 species

1 - 149 species

Ricketts, T.H., E. Dinerstein, D.M. Olson, C.J. Loucks, W. Eichbaum, K. Kavanagh, P. Hedao, P. Hurley, K.M. Carney, R. Abell, and S. Walters. 1999. Ecoregions of North America: Aconservation assessment. Island Press. Washington DC. 485 pp.

PLACING A VALUE ON FORESTS

Most of the world's paper is still produced from virgin wood fiber from forest ecosystems. But forests provide more than just pulp and paper products. Standing forests generate other environmental benefits such as carbon sequestration, habitat and watershed protection and flood prevention. However, these ecosystem services aren't directly valued in the same way as forest products. Society clearly values clean air and water and protection from climate change, but we don't always see this value expressed in the marketplace.

While much progress has been made, prevailing forestry practices still harm wildlife, water quality, climate, wilderness and other forest ecosystem values. Paper production is also one of the world's leading causes of climate change.[5] Scientists estimate that deforestation and forest degradation account for around 20 percent of the annual greenhouse gas emissions that fuel climate change.[6] The paper and forest product industry's energy consumption is the third highest in the world, trailing only the petroleum and chemical industries. A single large pulp and paper mill can consume over 3.5 million tons of wood in a year. In 2011, there were 81 mills drawing wood from the region and industry was producing over 122,000 tons of pulp per day.[7]

In the balance, we see a greater need for valuing forests beyond their timber and managing them in ways that decrease energy consumption and waste.

A SNAPSHOT OF INDUSTRY PERFORMANCE TODAY

For our survey, we invited participation from the region's largest pulp and paper companies in the office paper and consumer packaging sectors; that is, those with large wood-sourcing footprints in the US South. Some of them are also among the largest pulp and paper companies in the world. Together, these companies capture more that 50 percent of the forest products industry in the region and more than 30 percent of total domestic production.[8] For this report, the following companies were surveyed.

INTERNATIONAL PAPER

With manufacturing operations in North America, Europe, Latin America, Russia, Asia and North Africa, International Paper (IP) is recognized as the largest pulp and paper company in the world. The company operates pulp and paper mills in Alabama, Florida, Georgia, Louisiana, North Carolina, South Carolina, Virginia and Texas.

GEORGIA-PACIFIC

Georgia-Pacific (GP) is a privately held company and produces a broad range of forest products from engineered wood, packaging and office papers to hygiene products.

DOMTAR PAPER COMPANY, L.L.C.

Domtar is the largest integrated manufacturer of uncoated freesheet office paper in North America with five pulp and paper mills across the region.

MEADWESTVACO

Headquartered in Richmond, Virginia, MeadWestvaco (MWV) is a large global packaging and chemical company headquartered with numerous mills in the Southern US.

PACKAGING CORPORATION OF AMERICA/BOISE

Packaging Corporation of America (PCA) acquired Boise Inc., making PCA/Boise one of the largest producers of containerboard and corrugated packaging products in the US.

PAPER INDUSTRY PROGRESS SURVEY

The survey instrument focuses of five metrics around wood procurement: Endangered Forest protection; forest management certification; conversion/maintenance of natural forests; forest stewardship and conservation initiatives; and forest carbon management. In 2014, draft metrics and indicators were vetted with various members of the environmental non-governmental organization (ENGO) community and the Environmental Paper Network (EPN), and some important feedback was incorporated into a revised set of metrics. The metrics and indicators were also discussed with key large corporate paper and packaging purchasers at that time. Finally, the draft survey was shared directly with the five subject companies and feedback from the companies was also incorporated into the final survey instrument before it was finalized and sent to the companies.

ENDANGERED FOREST PROTECTION

Endangered Forests are rare and special forested areas around the world. These special forests include the following: intact forest landscapes; areas where forest restoration is an ecological priority; remnant portions of formerly intact forests; forest landscapes needed to provide ecological connectivity; rare forest types; forests exhibiting significant levels of species richness; rare ecological and evolutionary areas; core habitat for conservation of species; areas that support high concentrations of rare and endangered species; and landscapes that are conservation priorities due to their ecological services (e.g., carbon storage and clean water). In other words, these places are the best of what's left across the forested landscape.

In 2001, the ENGO community directly involved with the Endangered Forests commitments made by purchasers of wood products came together in the Wye River Process, a forum among a broad group of ENGOs and industry participants. Industry participated in initial meetings but was not involved in the final published report. Participants defined and identified the characteristics of Endangered Forests. A key finding of the process was:

> … (S)ome high conservation value forests (HCVF) or portions of HCVF are so rare, threatened, or ecologically vulnerable, and are of such global biological or cultural importance that any logging or commercial use could irreparably damage their conservation value. These forests are 'endangered' and should be protected. Accordingly, EFs should not be used for extractive purposes unless or until adequate conservation safeguards … are in place. Thus, we use the term 'endangered' more broadly than is usually used in scientific literature.[9]

The pulp and paper industry must protect these last best places when they procure the wood needed for their products. Even when the industry does not directly own the forests that are harvested, companies must avoid fiber procured from them. As a lynchpin of the economic system that drives harvesting, paper and pulp companies can ensure that they and their customers are not contributing to the destruction of these special forests. We reviewed companies based on: their commitment to protecting these special places; the collaborative work they have done with conservation stakeholders to understand where those special places remain across the landscape; and the measures they take to ensure that wood from these forests does not end up in their products.

FOREST MANAGEMENT CERTIFICATION

Forest certification is a system for inspecting and tracking timber, pulp and other forest products to ensure it has been harvested according to a strict set of guidelines. Those guidelines can extend beyond the forest to the social and economic wellbeing of workers and local communities near the certified forest area. Candidates for certification undergo a detailed on-the-ground assessment that includes input from all interested parties, species inventories, management plan reviews and forest inspections. According to the World Wildlife Federation, forest certification is widely seen as the most important initiative aimed at promoting better forest management around the world to emerge in the last decade.[10]

Forest certification can only protect forests and important social values if it is robust and credible. Currently, the gold standard in forest management certification is the Forest Stewardship Council (FSC) system. It is the only certification system supported by leading environmental organizations from around the world. The FSC's mission is to promote the environmentally sound, socially beneficial and economically prosperous management of the world's forests in order to meet the current needs for forest products without compromising the health of the world's forests for future generations.[11] Since FSC was founded in 1994, the total area of forests certified to the FSC standard has grown to 452,458,000 acres across 79 countries as of November 2014, including over 4 million acres of certified forest in the Southern United States.[12]

Key elements of the FSC's principles and criteria address the leading conservation issues for Southern forests. Among the most helpful FSC elements are the limits on the size of openings (clearcuts); the requirement for retention of standing forest areas in around these openings to mimic natural disturbance; enhanced water course buffering; prohibitions on the conversion of natural forests to plantations; and safeguards for biological diversity in managed forests, including protection in High Conservation Value forests.

The pulp and paper industry can advance responsible forest management through the use of FSC certification. Not only does certification to the FSC standard protect forests, its gives individual and corporate consumers the chance to connect their purchasing to well-managed forests, in a sense giving them a say in how forests are cared for. In this survey, we reviewed the companies based on their commitment to and adoption of the FSC system for their wood procurement in the Southern US.

Other certification systems (e.g., the Sustainable Forestry Initiative, American Tree Farm System and the Programme for the Endorsement of Forest Certification) currently lack the necessary rigor to address the forest management challenges facing Southern Forests. In addition, there are limitations on how the Chain of Custody (COC) agreements used in these systems provide assurance to the public and the marketplace. We do not use adoption of these systems as an indicator of progress or a mark of leadership.

CONVERSION/MAINTENANCE OF NATURAL FORESTS

As previously detailed in this report, the natural forests of the Southern US are among the most diverse temperate forests in the world. Yet for many reasons, we are losing natural forests across the region. While much forest loss has been driven by development, the forest products industry has also played a role in the loss of natural forests through the longstanding industry practice of converting natural forests to monoculture industrial tree plantations in an effort to increase timber yields. Unsurprisingly, industrial pine plantations are a poor ecological substitute for the biologically diverse natural forests of the US South. Across the region, the area of planted pine has grown strongly over the past 50 years, from near zero in 1952 to about 39 million acres (or 19 percent of forests) by 2010, with the acreage nearly doubling from 1990 to 2000 alone. In the Coastal Plain, 27 percent of forests are now described as a planted pine type. [13]

Much of this planted pine has come at the expense of natural pine and hardwood forests.[14] Across the Coastal Plain, bottomland hardwood wetlands have also been converted into pine plantations by changing the hydrology of the area through ditching and draining. In North Carolina, conversion of forested wetlands by the forestry industry is the leading cause of wetlands loss, even exceeding loss through development. Nearly one-third of the wetland losses in the state's coastal plain are believed to have occurred since the 1950s. Some estimate that from the early 1950s through 1983, North Carolina lost 1.2 million acres of wetlands (more than any Southeastern state), mostly as the result farming and the conversion to managed forests.[15] Despite legislative changes, ditching and draining activity continues in some areas.[16]

The pulp and paper industry must protect natural forests when it procures the wood needed for its products. Even when the industry does not directly own the forests, it can avoid purchasing fiber from plantations established at the expense of natural forests, thereby creating a market disincentive for landowners to convert natural forests to plantations. As the engine of the economic system that drives the harvest of millions of acres each year, the industry must send a clear signal that the market will no longer accept the conversion of natural forests into monoculture plantations.

We reviewed the companies in our report based on their commitment to take a proactive role in protecting natural forests from plantation conversion and the work they have done to understand where those natural forests remain across the landscape. We also look at the other measures these players can take to keep these natural forests on the landscape.

OVERALL WOOD BASKET STEWARDSHIP AND CONSERVATION INITIATIVES

The forest products industry is uniquely tied to the forest as the raw material for its business. This industry holds broad economic and social influence across the forested areas of the South and from that vantage point, occupies a unique position and has a unique obligation to advance forest stewardship and conservation initiatives to protect forests. By clearly promoting a conservation vision that makes room for the procurement needs of the industry, paper company leaders can bring together consumers, landowners and conservation organizations to catalyze forest conservation and sustainable forestry in the Southern US. As key economic and social drivers of forest management across their wood basket, pulp and paper companies must balance their need for responsibly sourced wood and fiber with the need for conservation. As such, the industry must not only invest in responsibly sourced wood, but also directly in conservation initiatives designed to ensure adequate forest protection and conservation in the forests that make up its wood basket.

We reviewed the companies in our survey based on their conservation initiatives and their engagement with other stakeholders working to protect forests. In addition, we looked at how the companies balanced their procurement practices with conservation initiatives in their regions. We also researched a company's willingness to directly fund forest conservation projects.

FOREST CARBON MANAGEMENT

Increasingly, standing forests are recognized as a key solution for carbon pollution and climate change. The conservation, restoration and responsible management of forests is critical in the global effort to address climate change because trees remove and store significant amounts of carbon from the atmosphere. Carbon flows through all parts of the forest system. Carbon emissions are produced in each phase of the forest products manufacturing process. Historically, forests in the Unites States were in approximate carbon balance with the atmosphere from 1600–1800, followed by a period of greater forest carbon emissions during the 19th century. Today the rate of carbon sequestration in the US is declining.[17]

Logging and clearing in forests across the region has significantly impacted carbon stocks, yet there are many management options for reducing carbon emissions and enhancing carbon sequestration in managed forests, including longer harvest intervals that extend the amount of time between rotations or between entries during forest management, reduction of harvest levels, and increasing carbon in the forest through increasing the average tree size.[18] In addition, there are certain forest types across the landscape that are recognized as holding significant carbon storage, including mature bottomland hardwood stands.[19] Forest carbon management should include wood procurement that works in concert with these forest carbon dynamics. With good forest carbon management, the paper industry could help reduce the carbon impacts of logging on the one hand, while increasing the climate benefits of forests on the other. Forest management that aims to maintain and enhance carbon sinks is critical to addressing one of the biggest challenges of the 21st century.

While we recognize that this is an emerging area of interest for many, we reviewed the companies based on their effort to understand the carbon dynamics of their procurement practices and their practices around carbon accounting under existing protocols. Pulp, paper and other forest products come with a carbon footprint. We believe forest carbon management is the next big thing for the forest products industry and for the large corporate customers of pulp, paper and wood products.

THE ENGAGEMENT PROCESS

Our survey instrument was shared with the participants in the late summer 2014. Each of the six surveyed companies also received a personal invitation to participate by telephone as well. Before this report was publically released, all companies were given the chance to review the documents and comment on the content.

Of the five companies invited to participate, Dogwood Alliance received completed surveys from Domtar, International Paper and Georgia-Pacific. The other companies MeadWestvaco and Packaging Corporation of America/Boise declined to participate. In those cases in which we received no response, Dogwood Alliance has used publically available information to complete the survey.

TRANSPARENCY

Due to the sensitive and commercial nature of the study data, the full responses are being kept confidential. In some cases, this has meant that some of the information can only be expressed in general terms. In addition, Dogwood Alliance has signed non-disclosure agreements with some of the survey participants.

COMPANY PROFILES AND SURVEY RESULTS

Domtar

DOMTAR PAPER COMPANY

Domtar is the largest integrated manufacturer of uncoated freesheet office paper in North America. The company also operates Domtar Personal Care products, which manufactures incontinence products including adult and infant diapers and other absorbent products. Domtar operates five pulp and paper mills across the region in Tennessee, Arkansas, Kentucky, and South Carolina. Domtar's Kingsport, Tennessee mill operates the only sulfur-free pulping process in the United States. The company responded to our survey, so its results reflect that participation.

FOREST MANAGEMENT CERTIFICATION

Domtar Paper Company is best in class at procuring FSC-certified wood and fiber for its Southern mills. The company's leadership begins with a clear policy commitment to FSC with an aspirational goal of a 100 percent FSC-certified system. This aspirational goal is backed up with a public commitment to grow its certified fiber volume by 35 percent by 2020 from 2010 numbers, as well as a track record of growing its FSC volumes significantly over the past five years. Of all the companies surveyed, Domtar can claim the highest percentage of FSC-certified fiber at its pulp and paper mills in the Southern US. While the company has not yet brought all of the facilities purchased from Weyerhaeuser in the early 2000's into its FSC certificate, it does have near universal coverage and can claim first-in-region bona fides as the first industrial forest products company to bring FSC certification to the US South.

Domtar's success in growing certified volume reflects the company's efforts to engage with landowners around sustainable forest management. This includes directly sponsoring an FSC Group Certification Effort around its Ashdown, Arkansas mill and several other efforts to expand FSC certification in the company's fiber baskets, including programs with the Nature Conservancy, the Forest Management Trust, the Center for Forests and Wood Certification and the Carbon Canopy with Dogwood Alliance. In addition to these direct investments in growing its FSC-certified base, Domtar has committed to give preference to FSC-certified wood and pulp suppliers.

Domtar has shown a strong commitment to the FSC in numerous ways beyond growing the certified land-base and moving certified product. The company is a longtime member of the organization and currently has employees serving on the FSC US Board of Directors and on its working groups and panels. In addition, over 25 percent of Domtar's paper products are FSC-certified as part of its EarthChoice Product Line. Domtar recently celebrated five million tons of FSC-certified paper sales. In December 2014, the company published a report entitled "The Future of Our Forests," that recognizes the importance of recent anti-deforestation pledges as a positive step forward for companies beginning to assess their environmental impact and asserts that Forest Stewardship Council certification is the strongest approach to assuring well-managed forest landscapes.[20]

ENDANGERED FOREST PROTECTION

While Domtar leads the field with its FSC forest management progress, the company's stance on protecting Endangered Forests is less robust. Leadership on Endangered Forest issues requires understanding of the location of these forests in the company's wood and fiber purchasing footprint and a clear commitment to keep those last special places out of the supply chain. Domtar's Forest Policy Statement on Sustainable Growth and Fibre Use and Sourcing Policy both require avoidance of fiber that falls into the five FSC-Controlled Wood categories of unacceptable sources: illegally harvested wood; wood harvested in violation of traditional and civil rights; wood harvested in forests in which High Conservation Values are threatened by management activities; wood harvested in forests being converted to plantations or non-forest use; and wood from forests in which genetically modified trees are planted. However, the company's policies fail to clearly state a commitment to avoid procuring from Endangered Forests.

The company's commitment does affirm that it "does not purchase wood from high conservation value forests unless this wood is legally harvested, in accordance with other relevant conservation regulations and requirements; and (ensures) the supplier takes specific measures to ensure the protection of high conservation value forests." But this commitment does not explicitly contemplate or commit to keep Endangered Forests out of the supply chain and out of the company's products.

CONVERSION/MAINTENANCE OF NATURAL FORESTS

Domtar does not have a clear commitment stating the company will not procure wood from the conversion of natural forest. The Domtar Fibre Use and Sourcing Policy states that "No fiber from conversion of High Conservation Value Forests will be accepted." On the surface, that commitment is insufficient to address protection of all natural forests. But there is language in Domtar's current FSC Fiber Sourcing Agreement Addendum that directs wood suppliers to avoid supplying wood from conversion of natural forests.

Domtar's procurement commitment vis-a-vis natural forests to plantation conversion does not reach the highest standard required for real industry leadership; that is, protection to all natural forests. However, the company has iterated and implemented many policies and procedures that work against conversion. We call on the company to round out its portfolio of policies with a clear and definitive statement against this outdated practice that has had such negative impacts on the forests of the US South.

OVERALL WOOD BASKET STEWARDSHIP AND CONSERVATION INITIATIVES

Domtar lacks a clearly iterated overarching conservation and stewardship agenda for its Southern mills. As a significant purchaser of wood and fiber from the region, Domtar fails to reach the highest standard of leadership required for the 21st century. Like most players in the forest products industry, the company does have a history of supporting various conservation initiatives. It is also important to note that Domtar is a key partner in the Carbon Canopy project, working to conserve forests in its sourcing area through a combination of responsible forest management and forest carbon offsets. But, beyond this project there is no indication that the company has integrated its wood and fiber procurement operations into a broader conservation vision for the procurement area for its mills in the US South.

FOREST CARBON MANAGEMENT

Regarding the emerging metric of forest carbon management, Domtar stands far above all of the companies surveyed. Domtar has directly engaged in the Carbon Canopy project in partnership with Dogwood Alliance and others to advance FSC certification and protecting forests as carbon sinks in the Southern Appalachians. This makes the company a first mover in embracing carbon management through participation in the development of forest carbon pilot projects surrounding its mill in Kingsport, TN. In addition, the company has supported the Nature Conservancy's Working Woodlands program in Pennsylvania, which also ties forest carbon offsets to FSC forest management certification. Finally, the company has committed to developing new internal policies regarding important forest carbon sinks in its wood basket, carbon storage in forests and products and increased paper recovery. Overall the company has yet to fully incorporate forest carbon management into its procurement operations, but through its partnerships has recognized the importance of well-managed natural forests as a starting point for addressing this new forest products industry imperative.

GEORGIA–PACIFIC

Georgia-Pacific (GP) is a privately held company that produces a broad range of forest products including engineered wood, packaging, office papers and hygiene products. North America's largest producer of wood panels including plywood and oriented strand board, GP is also a large producer of lumber, containerboard and corrugated containers, paper towels, bath tissue, napkins, facial tissue, fluff pulp (used in products such as diapers and incontinence items) and market pulp. Of the companies included in our survey, GP is one of the largest and the most diversified.

FOREST MANAGEMENT CERTIFICATION

Overall, GP emerges in the middle of the pack on achieving Forest Management Certification leadership. GP's Statement on Forest Protection and Sustainable Practices states the company's support of "credible forest certification programs." While this includes the gold standard, FSC, it also includes less rigorous schemes as well.

On the positive side, the company worked with the FSC on a "Field Test Partnership Project" aimed at understanding how FSC certification applied to family forest landowners in the Southeast. GP's FSC alignment recently culminated in 2014 with GP becoming a member of FSC.

Georgia-Pacific considers the amount of volume certified to any forest certification system proprietary information and thus determining their FSC volumes (if any) is not possible. The company does maintain FSC Chain of Custody certification across 20 primary facilities and six secondary facilities. However, a Chain of Custody certificate only provides assurance that FSC fiber can be accurately tracked. It does not provide any assurance that the company is actually purchasing any FSC-certified wood. We are not aware of any FSC-certified GP product currently available in the marketplace.

ENDANGERED FORESTS

Georgia-Pacific emerges as the clear leader in the Endangered Forests category. The company's superior record rests on its clear commitment to keeping these important forests out of its supply chain and its multi-year effort defining and mapping of Endangered Forests and special areas. GP adopted a company policy in 2010 as follows:

> Georgia-Pacific will work actively on the definition and mapping of Endangered Forests and special areas. As Endangered Forests are identified, Georgia-Pacific will not source fiber from these areas. In unique situations where credible scientific evidence demonstrates that ecological restoration activities are needed to improve habitat for endangered, rare and/or vulnerable species within certain Endangered Forests and special areas, Georgia-Pacific may procure fiber from these Endangered Forests and special areas as a result of such restoration activities.

This commitment was made pursuant to a Memorandum of Understanding between the company and Dogwood Alliance, Natural Resources Defense Council (NRDC) and Rainforest Action Network, and the ongoing conservation mapping work has been completed in partnership with Dogwood and NRDC. The company has included this commitment in it contracts and has developed mechanisms within its procurement system to ensure compliance with its commitment as it is rolled out as mapping is completed across its operations.

CONVERSION/MAINTENANCE OF NATURAL FORESTS

GP is also a leader in protecting natural hardwood forests from conversion to pine plantations. Their policy states:

> Georgia-Pacific will not procure pine fiber from plantations established after July1, 2008, on sites that were natural hardwood forestlands immediately prior to their conversion. Additionally, Georgia-Pacific will continue to offer information and education on natural regeneration options to forest landowners.

This commitment was announced as part of the MOU with Dogwood Alliance and NRDC. Through the MOU process, GP has identified areas of natural hardwoods (some 90 million acres) impacted by this commitment. In addition to the ecoregions already identified as natural hardwoods, GP continues to work on mapping lowland hardwoods that would meet the definition of natural hardwoods. This information is expected to be shared with Dogwood Alliance and NRDC later this year. As of this time, specific methodology for keeping conversion wood out of its supply chain pursuant to this agreement has not yet been developed. The conversion protection is also indirectly addressed by GP's FSC Chain of Custody certifications.

While these steps are certainly significant and GP has demonstrated leadership in this area, GP's commitment only operates to prevent natural hardwood forests from being converted to plantations. Natural pine forests also play an important and valuable ecological role at a landscape level. Unfortunately, many of the natural pine forests of the South have been converted to plantations. Leadership is needed to protect natural pine forests from being converted to plantations as well.

OVERALL WOOD BASKET STEWARDSHIP AND CONSERVATION INITIATIVES

While GP does not have a clearly iterated overarching conservation and stewardship agenda for its Southern mills, like most of the players in the forest products industry, the company has a history of supporting various conservation initiatives. In addition, GP has invested important resources in developing conservation mapping of its wood basins and is uniquely positioned to develop a holistic approach to its conservation funding and philanthropic giving. GP could lead the industry in this area by dedicating conservation funding to help secure the protection of Endangered Forests and the conservation of otherwise important forests as identified in its mapping process.

FOREST CARBON MANAGEMENT

Regarding the emerging metric of forest carbon management, GP joins all of the companies besides Domtar at the bottom. On the key question of whether the company analyzes and manages its impact on forest carbon as it relates to its wood procurement practices, GP has not yet taken steps to address these key concerns.

INTERNATIONAL PAPER

INTERNATIONAL PAPER

International Paper (IP) is recognized as the largest pulp and paper company in the world, with manufacturing operations in North America, Europe, Latin America, Russia, Asia and North Africa. The company's businesses include industrial and consumer packaging and uncoated office papers. While the company obviously has a global footprint, its largest concentration of mills remains in the US South.

ENDANGERED FORESTS

International Paper has a policy of using no wood from Endangered Forests, which the company defines as those forests which are either naturally rare or have lost much of their original extent due to human influence and continue to be threatened with further habitat loss or degradation. While this policy definition is not robust enough to advance protection for other critical forests considered "endangered" under the Wye River process, it represents progress. In addition, as part of IP's Memorandum of Understanding with Dogwood Alliance, Dogwood and IP will use the best available data to identify and map High Conservation Value and Endangered Forests for the purpose of ensuring that IP is not sourcing from Endangered Forests or otherwise negatively impacting High Conservation Value Forests, beginning with the sourcing footprint for IP's Riegelwood mill in southeastern North Carolina.

The Riegelwood pilot project is intended as a starting point for working together across IP's southern operations. After the Riegelwood pilot project is completed to the satisfaction of both parties, IP and Dogwood will work together to evaluate the pilot framework and suggest improvements to the process. After incorporating learning from the pilot, and upon mutual agreement, the improved framework will be applied across additional Southeastern US operations.

FOREST MANAGEMENT CERTIFICATION

International Paper has become a leader in procuring FSC-certified wood and fiber for its Southern mills. Across its global operations, IP is now the largest user of FSC-certified wood in the world. In addition, the company is also the largest user of FSC-certified wood in the South. While it is problematic that the company's policies recognize other certification schemes that are not as rigorous as the FSC, IP has publically committed to growing certified volume across the globe and in the South, with a focus on FSC certification. This commitment is backed up with an impressive record of growth in FSC certified volume. In addition to growing its FSC supply, IP holds FSC Chain of Custody certificates at 25 pulp and paper mills and six converting plants in the US.

FSC-certified fiber supply growth has been achieved through extensive outreach to landowners across the region and support of group certification efforts. These efforts include their own FSC Forest Management group certificate for Certified Forest Management LLC. As part of IP's Memorandum of Understanding with Dogwood Alliance, the parties have agreed to work together to advance FSC-certification efforts across the region.

In addition to its on-the-ground efforts, International Paper is now an organizational member of FSC, and IP serves on the FSCUS Board and as well as FSC working groups.

CONVERSION/MAINTENANCE OF NATURAL FORESTS

While the company has no clear commitment against the procurement of wood from the conversion of natural forests, IP's Responsible Fiber Procurement Policy does state that "no fiber from conversion of High Conservation Value Forests will be accepted." IP's commitment to FSC advances the system's prohibition against conversion of natural forests to plantations in the Southern US. In that regard, the company is supporting the maintenance of natural forests. As part of its agreement with Dogwood Alliance, IP agrees to collaborate with Dogwood to develop procurement and outreach strategies to discourage the conversion of natural hardwood stands to pine plantations. At this time, the work of identifying and acting upon any such opportunities has not yet begun.

While International Paper's commitment regarding procurement from plantations converted from natural forests is not as strong as we would like, the company has iterated and implemented many policies and procedures that work against the practice. We call on the company to round out its portfolio of policies with a clear and definitive statement against this outdated practice and the implementation of procurement and outreach strategies.

OVERALL WOOD BASKET STEWARDSHIP AND CONSERVATION INITIATIVES

International Paper's five-year $7.5 million commitment to the Forestland Stewards partnership with the National Fish and Wildlife Foundation puts the company at the top of the list on this crucial indicator. In addition, IP's agreement with Dogwood Alliance around the Riegelwood mill sets a new standard for integrating wood and fiber procurement operations into a broader conservation vision for the procurement area for their mills in the US South. The Forestland Stewards partnership between International Paper and NFWF, which began in 2013, is designed to protect and enhance ecologically important forestlands and coastal savannas in eight Southern states with a focus on protecting core habitat areas as anchor forests, improving management of private and public forests, restoring populations of at-risk wildlife and plant species and improving water and air quality through healthier forests.

Forestland Stewards is funding conservation projects in three regions: the low country of North and South Carolina, the Cumberland Plateau of Tennessee and Alabama and the piney woods on the Louisiana-Texas border. These projects aim to restore 20,000 acres of pine habitat and 2,500 acres of bottomland hardwoods, enhancing 150,000 acres of habitat and permanently protecting 30,000 acres. The program has already funded several rounds of grantmaking in the regions, with a request for conservation proposals for the 2015 Cumberland Plateau Stewardship Fund still open.

FOREST CARBON MANAGEMENT

Regarding the emerging metric of forest carbon management, International Paper has done nothing to emerge from the back of the pack. The company does have a goal of 20 percent GHG emission reduction by 2020, but does not seriously look at forest carbon solely focused on facility emissions. But just like GP, MWV and PCA, IP has not yet taken steps regarding understanding forest carbon sinks and carbon flows related to the company's procurement processes.

MEADWESTVACO

Headquartered in Richmond, Virginia, MeadWestvaco (MWV) is a large global packaging company and chemical company with numerous mills in the Southern US. In addition, the company recently announced an agreement to merge with RockTenn, another larger packaging company. At this time, MWV's domestic production focuses on white cardboard, with mills producing paperboard and bleachboard for packaging in Alabama, Texas and Virginia. In addition to its pulp and paper mills, MWV also runs a sawmill in Alabama, producing over 140 million board feet of lumber annually. While the company divested the bulk of its forestland holdings in the fall of 2013, it still manages over 100,000 acres of forestland in South Carolina. MeadWestvaco did not respond to this survey, and all information in this report was derived from publicly available sources.

ENDANGERED FORESTS

Leadership on Endangered Forest issues requires understanding of the location of these forests in the company's wood and fiber purchasing footprint and a clear commitment to keep those last special places out of the supply chain. Based on a review of publicly available information, it appears that the company does not have a clear commitment regarding keeping controversially sourced fiber out of their supply chain. Without a clear commitment to avoid this controversial fiber source, the company lands at the bottom of the list for this criteria.

FOREST MANAGEMENT CERTIFICATION

MWV purports to advance sustainable forest management through certification and outreach and engagement, but like others in the industry, has not adopted the FSC gold standard as its tool. Instead, the company relies on SFI and American Tree Farm certifications in the US, systems that offer less rigor and assurance than FSC. The company has a public commitment to grow certified fiber to the 50 percent level by 2020, but it's not clear if the company intends to embrace or emphasize FSC certification. While the company recently divested the bulk of its forestland holdings, MWV manages 100,000 acres of forestland in South Carolina, which is certified to the SFI standard.

MWV has a Cooperative Forest Management program that provides outreach, education and group certification to private landowners in the Southeast. It currently covers over an impressive 1,000,000 acres. Unfortunately, this land is not certified to FSC standards. With this program, MeadWestvaco is in a unique position to work with landowners to get this land under FSC management, which would put the company in a leadership position on certification. While educating landowners about responsible forest management and certification is admirable, verified and transparent proof that the management practices meet a high standard can only be achieved through FSC.

MWV has FSC Chain of Custody coverage at its Covington, Virginia and Evadale, Texas mills as well as some of its converting facilities, but again this does not ensure these mills are producing FSC paper. In addition, the company is a member of FSC US. Overall, MWV lands near the bottom of the pack in forest management certification here in the US South.

CONVERSION/MAINTENANCE OF NATURAL FORESTS

Based on a review of publicly available information, it appears that the company does not have a clear commitment preventing fiber from this controversial source from entering its supply chain. Overall, this puts the company at the bottom of the list for this criteria.

OVERALL WOOD BASKET STEWARDSHIP AND CONSERVATION INITIATIVES

Based on a review of publicly available information, it is not clear if the company is involved in any significant stewardship or conservation initiatives in the US South. Historically, the company was involved in numerous conservation transactions including important tracts along the Cooper River in South Carolina, though there is no publicly available information about any recent conservation initiatives. Like all companies in this report, MWV does support various environmental non-profits through its foundation. The company should use funds from this foundation to direct forest conservation. Without a clear commitment on conservation, MWV also ends near the bottom of the list for this indicator.

FOREST CARBON MANAGEMENT

Regarding the emerging metric of forest carbon management, MWV stands with most of the industry at the back of the pack. The company has not yet taken steps regarding understanding forest carbon sinks and carbon flows related to its wood procurement.

PACKAGING CORPORATION OF AMERICA-BOISE INC.

Packaging Corporation of America (PCA) is primarily a manufacturer of brown corrugated cardboard packaging. In 2013, the company acquired Boise Inc., a manufacturer primarily of white paper with other packaging and paper products as well. The combination of Boise's mostly western footprint with PCA's existing mills across the US South makes PCA a significant player in the US South and one of the largest producers of containerboard and corrugated packaging products in the US. Based on its production capacity, PCA is the fourth largest producer of containerboard in the United States and the third largest producer of uncoated freesheet office papers in North America. Together in the region, Boise/PCA has corrugated mills in Valdosta, Georgia, DeRidder, Louisiana and Counce, Tennessee as well as a recycled paper mill in Jackson, Alabama.

Currently, the companies have not yet integrated their procurement or certification systems, so the review will incorporate information from both organizations. Neither Boise or PCA responded to this survey and all information in this report was derived from publicly available sources.

ENDANGERED FORESTS

Leadership on Endangered Forest issues requires understanding of the location of these forests in the company's wood and fiber purchasing footprint and a clear commitment to keep those last special places out of the supply chain. In the Southern US, the company does not have a publicly available clear commitment regarding protecting Endangered Forests and keeping fiber sourced from them out of its supply chain. Efforts to address this issue through contractual language were initiated in August 2014 and appear to apply to both PCA and Boise, stipulating suppliers must not provide wood from forests where High Conservation Values are threatened.Unfortunately, this puts the company at the bottom of the list for this criteria.

FOREST MANAGEMENT CERTIFICATION

It is clear that Boise and PCA take different approaches to forest management certification. While Boise acknowledges several different certification systems, the company is FSC Chain-of Custody-certified at all its mills and produces a significant amount of FSC-certified papers, including many different FSC-certified recycled products made at its Louisiana mill. Boise is also a member of the FSC US and has representatives on various working groups and technical committees. On the other hand, PCA adheres solely to the SFI standards and currently has no FSC certifications at all. PCA appears to have made recent efforts to address expanding FSC Chain of Custody certification as of August 2014, but at this time it does not appear that PCA has instituted FSC COC certification. Overall this leaves PCA at the back of the pack in the US South.

CONVERSION/MAINTENANCE OF NATURAL FORESTS

Boise has a different perspective than PCA on the issue of prohibiting procurement of wood from the conversion of natural forests. PCA does not have any public position on this critical issue. There appear to be recent efforts to address the issue of conversion through contractual language adopted in August 2014. This language indicates suppliers to PCA and Boise must not provide wood from natural forests that have been harvested for the purpose of converting the land to plantations or other non-forest use. Overall, this puts the company near the bottom of the list for this criteria.

OVERALL WOOD BASKET STEWARDSHIP AND CONSERVATION INITIATIVES

Based on a review of publicly available information, it is not clear if PCA/Boise is involved in any stewardship or conservation initiatives in the US South. Further, there is no information regarding the conservation efforts of PCA. Unfortunately, this puts the company at the bottom of the list for this emerging criteria.

FOREST CARBON MANAGEMENT

Regarding the emerging metric of forest carbon management, PCA/Boise again lands with most of the industry at the back of the pack. There is no publicly available information regarding forest carbon initiatives.

CONCLUSION

This paper industry progress report documents significant progress in the environmental performance of some companies in the pulp and paper industry operating in the forest of the Southern US. Even just a few years ago, industry did not have much to show in addressing critical issues of the protection of Endangered Forests, forest management certification, conversion of natural forests and wood basket conservation and stewardship initiatives. Today, three of the largest paper producers—International Paper, Georgia-Pacific and Domtar—are moving forward with new practices to meet customers' forest sustainability expectations. These paper industry leaders are beginning to embrace some of the sustainability challenges of the 21st century with smart and effective supply chain improvements that mean better results in the woods. Meanwhile, there are other paper companies that have not yet moved forward.

As the greening of the forest products industry gains momentum, it makes sense that new sustainability issues emerge. Climate change continues to draw attention to the importance of the world's forests. The forest products industry has a role to play in managing the forest carbon impacts of their procurement practices. That's why the new sustainability indicator for forest carbon management is of increasing importance. To date we have not found a significant response from industry beyond Domtar's Carbon Canopy partnership, which is seeking to grow FSC certification and conservation through forest carbon offsets in its wood basket. Based on our experience with the other indicators, we expect that market demand for improved green performance and the industry's own push for continuous improvement will bring progress on this indicator as well.

Dogwood Alliance encourages large paper buyers to engage with their suppliers on all of these critical issues connected to Southern forests. We believe the results of this report can form the foundation for these discussions. Market demand from the largest customers of the paper industry for better paper has been a key market signal and has truly catalyzed this progress. We challenge these buyers and the paper industry to help build a new, greener forest products economy in the US South.

(ENDNOTES)

1 Hartsell, Andrew J.; Conner, Roger C. 2013. Forest area and conditions: a 2010 update of Chapter 16 of the Southern Forest Resource Assessment.

2 Ibid

3 Trani, Margaret K. 2002. "Maintaining Species in the South." In Southern Forest Resource Assessment. Gen. Tech. Rep. SRS□53, by Wear, David N. and Greis, John G. Asheville, NC: U.S. Department of Agriculture, Forest Service, Southern Research Station.

4 U.S. Department of Agriculture, Forest Service. [N.d.].
SRS Regional Table Generator for FIADB/NIMS version 5.1.1
Knoxville, TN: U.S. Department of Agriculture Forest Service, Southern Research Station.
http://fsweb.fia.srs.fs.fed.us/php/helens_dc/tool_srs_reg_rep_div_06_09X_v2012b/F30_tables00_groups.php.
[Date accessed: Nov. 17, 2014].

5 http://wwf.panda.org/about_our_earth/about_forests/deforestation/forest_conversion_agriculture/

6 http://www.cifor.org/publications/pdf_files/media/MediaGuide_REDD.pdf

7 Southern pulpwood production, 2011; Bentley, James W.; Steppleton, Carolyn D. Resour. Bull. SRS-RB-194. Asheville, NC: U.S. Department of Agriculture Forest Service, Southern Research Station. 38 p.http://www.srs.fs.usda.gov/pubs/43626#sthash.HBtCnE8J.dpuf

8 http://www.srs.fs.fed.us/pubs/rb/rb_srs194.pdf?

9 Wye River; Endangered Forests: Priority High Conservation Value Forests For Protection, Guidance For Corporate Commitments p. 5

10 http://d2ouvy59p0dg6k.cloudfront.net/downloads/wwf_forest_certification_pp_oct07.pdf

11 https://us.fsc.org/mission-and-vision.187.htm

12 https://ic.fsc.org/preview.facts-and-figures-november-2014.a-3810.pdf

13 http://www.srs.fs.usda.gov/futures/reports/draft/summary_report.pdf

14 https://us.fsc.org/mission-and-vision.187.htm, p.19, Figure 12.

15 National Water Summary on Wetland Resources, United States Geological Survey Water Supply Paper 2425

16 http://www.newsobserver.com/2014/04/01/3750701_feds-investigating-pG Potential-environmental.html?rh=1

17 Forest Carbon Management in the United States 1600 – 2100; Birdsey, Richard, .file:///C:/Users/Agoldberg/Desktop/ne_2006_birdsey002p.pdf

18 Integrated Management of Carbon Sequestration and Biomass Utilization,OpportunitiesUtilization, Opportunities in a Changing Climate: Proceedings of the 2009 National Silviculture Workshop; 2009 June 15-18; Boise, ID; http://www.fs.fed.us/rm/pubs/rmrs_p061.pdf

19 McGarvey J.C., Thompson J.R., Epstein H.E., Shugart H.H. (2014).Carbon storage in old-growth forests of the Mid-Atlantic: towardbetter understanding the eastern forest carbon sink. Ecology.
96:2:pp.311-317. Publ. 2015/-2/27.

20 http://www.domtar.com/files/sustainability/The_Future_of_Our_Forests_-_EarthChoice_White_Papers.pdf

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