

# Atlantic White Cedar

## REGENERATING a Globally Threatened Forest Ecosystem

by **Bob Williams** • As the greening of America explodes, the catch phrase “think globally, act locally” actually does mean something. Encouraging the use of local forest products is, in fact, the green thing to do. Atlantic white cedar provides an economic model that ensures landowners’ profitability and restoration of a critically imperiled forest ecosystem.

Atlantic white cedar (*Chamaecyparis thyoides*) is found along the Atlantic and Gulf coasts of the United States from Maine to Florida and west to Mississippi.

Historically, this species has been a very valuable timber species, and remains so today. Over the last three centuries, the area occupied by Atlantic white cedar has declined drastically, and it is now classified as a globally threatened forest ecosystem. Hurricanes, flooding, wildland fires, natural plant succession, and sea level rise all continue to affect a decline in the overall acreage of this important wetland forest ecosystem. New Jersey retains the largest area of Atlantic white cedar of all the states—in the range of 35,000 acres.

### USES

Atlantic white cedar has a long historical and cultural link to New Jersey. There was significant cutting between 1653 and 1750 for shingles in the cities of



Independence Hall in Philadelphia Penn., still uses cedar shingles from New Jersey.

Philadelphia and New York. As early as 1858, white cedar products formed about 20% of the exports from Cape May County, New Jersey.

Atlantic white cedar was highly prized for its resistance to rot and insects. In fact, the wood is so durable that trees buried for centuries in the muck soils of the Great Cedar Swamp in Cape May County, New Jersey, are still sound enough to be used.

As far back as 1931, C.F. Korstian, a senior silviculturalist with the Appalachian Experiment



A mature, healthy stand of AWC presently being harvested on the Haines Stewardship Forest in Burlington County, New Jersey.

Station, prepared a technical bulletin that laid out the future for Atlantic white cedar. He stated that “unusually large boards of high quality and clear of defect sold for \$250/thousand board feet.” In 1931! According to Paul Schairer of Schairer Brothers Sawmill, boards of this size and quality are no longer available, but even the smaller boards now bring \$2.50 per board foot—10 times the 1931 price.

Cedar has a rich history in coastal areas because of its durability without the need to treat it with preservatives. Today, it remains highly prized for a wide variety of timber products. These include boats, tanks, siding, fencing, decking, shingles, posts, pilings, channel markers, and stakes. Cedar from New Jersey forests is still used to shingle the roof of Independence Hall in Philadelphia, Pennsylvania.



## LOSS OF ECOSYSTEM

The popularity of Atlantic white cedar has brought with it a great deal of pressure on the species, as well as its associated ecosystems. As early as 1749, Peter Kalm from the Swedish Academy of Science warned that heavy cutting in New Jersey might be eliminating white cedar entirely from the area.

Natural forces also contribute to the decline. The most recent and dramatic example of cedar loss was the 2,000 acres of the Great Dismal Swamp National Wildlife Refuge destroyed by Hurricane Isabel in 2003. The U.S. Fish and Wildlife Service has been managing this loss by planning salvage harvesting with helicopter operations. Much of the wood from this salvage operation has been going to Gates Custom Milling in Gatesville, North Carolina.

Many of the remaining cedar patches are small and fragmented. Loss of the ecosystem is accelerated by rising sea levels, beaver flooding, wildfire, hurricanes, and

ice storms. Its preservation demands active management of this resource to ensure its future on the North American landscape.

## MANAGEMENT OF AWC

Atlantic white cedar regenerates into an even-aged stand after natural disturbances such as fire, hurricanes, or beaver flooding. It typically grows as a dense monoculture, but does have a hardwood component at times. Early in its development, a cedar stand cannot compete for light resources. Cedar is moderately shade intolerant, thus control of woody brush and hardwood tree competitors is critical for the successful regeneration of a stand. Most people are surprised that forest practice regulations actually require this species to be harvested by the clearcut regeneration method.

Another factor complicating the sustainability of this special forest ecosystem is the fact that it is a preferred food source for white-

tailed deer. Since the 1950s there has been clear evidence that fragmented cedar patches lost due to beaver flooding or wildfire have not regenerated as a result of overbrowsing by expanded deer populations. Research has shown that with deer exclosures and plant competition control, cedar sites can be regenerated, and expanded back to sites that historically supported this forest type.

Atlantic white cedar management poses even more challenges when practiced next to or inside other forest types. For example, use of fire as a management tool to restore an Atlantic white cedar swamp surrounded by a fire-excluded pitch pine forest may be problematic.

Starting in the early 1990s and continuing to the present, George Zimmermann of Richard Stockton College has done extensive research on the silviculture and regeneration of Atlantic white cedar, leading the way to a return to active management of this



## A CONVERSATION with Paul Schairer, Cedar Products Specialist

by Dave Boyt

When Paul Schairer's grandfather started his sawmill business 75 years ago, he competed with about 100 other mills in New Jersey. Now, with eight employees, Paul runs one of the largest mills

in the state. With only four other mills in the entire southern half of New Jersey, it would seem that business would be easy. But with the regulations, permit requirements, and red tape, he would disagree. "The biggest competitor I have is the state of New Jersey," Paul says. "The state has pretty much taken away all the options of what someone can do with any cedar swamp land they own."

The Schairer Brothers Sawmill specializes in Atlantic white cedar products and owns 500 acres of cedar swampland. About half the logs for the mill come from this land, and the other half from

local landowners. Forester Bob Williams helps local landowners through the permitting hurdles so that their lumber can be harvested. Even cutting logs from property owned by Schairer Brothers is restricted by the state. "Around here, if someone hears a chain saw fire up, within a couple of hours, you'll have a police officer standing behind you, checking you out." Paul continued, "Even on your own property, you need a permit to cut. It takes a couple of years. You have to have an approved plan, and there are certain times of the year when you're not allowed to cut."

It takes about 10 acres harvested per year to keep the mill running. According to Paul, "We're so small we're just a blip on the radar. I'm not trying to be a huge million dollar operation. I'm just trying to fill a local market with what we do."

The Schairer Brothers mill uses a Valmet harvester and a Valmet forwarder, and Paul has been pleased with their operation. He says that working in the swampy land creates more challenges. They use treetops and undesirable species to build a roadbed for the equipment to minimize the impact of the harvesting. "We try to do most of our cutting in the winter when the ground is hard, and cut ahead so



Thinning young cedar stands for pole and post products on the Haines Stewardship Forest. Thinning will improve growth rates and log quality for future sustainable harvests of sawtimber and house logs.

important resource.

Management of cedar needs to follow a large landscape level approach that provides a diversity of age and size classes, thus enhancing the diversity of forest structure for the wide range of wildlife and rare plant species that depend on this special ecosystem. Some species need open, young stands resulting from the initial disturbance of regeneration, while many others need an older age class, or mature forest stand. This

diversity can come from active management programs that ensure the sustainability of local wood industries.

Cedar management is difficult and can be expensive. In many instances, deer exclusion fences or seedling plantings are cost prohibitive. Successful projects are ones in which the landowner can make a profit that allows for money to be reinvested into the forest for cedar restoration and future timber supplies. Anyone who harvests or manages timberland understands the economics of forestry. Someone must make a profit and money must be reinvested in the land.

Landowners in New Jersey who wish to manage and sustain vital cedar forests for watersheds and important wildlife habitat struggle to sell their cedar stumpage due to the lack of viable markets. Potential markets struggle to commit to buying cedar in concern for a longer-term supply. It's the chicken or the egg syndrome. The resource and stumpage are here,

but the forest needs a more sustainable market.

## CONTROVERSY

Throughout the 1990s and into the 21st century there has been an increase in public awareness about the importance of Atlantic white cedar, both ecologically and economically. Active management of this important tree species has become a priority—and a source of conflict—for landowners, loggers, sawmills, and preservationists. Today, most people have come to believe it is illegal to harvest Atlantic white cedar because of environmental regulations on it as a wetland species.

Many forest restoration projects are expensive. We now see the hundreds of millions of taxpayer dollars spent to thin our western forests and return them to a fire-safe and healthy ecological condition. In addition, we see a growing interest from wildlife biologists in managing forests for ecological objectives. Yet there is little

that we can keep the mill supplied with wood during the spring."

Paul notes that the trees aren't what they once were. The second-growth trees are smaller, and not as clear. Most of the trees they harvest are 8 inches to 16 inches in diameter. "We cut logs down to 3 inches diameter and get something out of them. We utilize the whole tree. We don't leave much in the woods," he says.

At the mill, Paul sees to it that the wood is used to the fullest. His sawyer squares the larger logs into cants with a Lane circle mill before sending them through a Baker band resaw. Smaller logs are processed with a scragg mill. Slabs go through a shaving mill which, along with the sawdust, sells for horse bedding. Even the floor sweepings sell locally for mulch.

The main products are shingles, siding, trim, decking, fencing, and paneling or, as Paul puts it, "anything that goes on the outside of a house." Some cedar goes for boatbuilding, but that is mostly for the hobby market. Smaller pieces are cut for round fencing posts and rails, and the smallest pieces become stakes.

Paul says that selling the cedar lumber is not a problem. "There's a lot of demand for the product. A lot of times, we have to turn away big orders. We can provide siding for a house, but not a tractor-trailer



load of siding." Most of the products sell locally—within a 50 mile radius—and that suits Paul. "We're not getting rich, but we're doing OK," he explained.

Paul is concerned about the future availability of Atlantic white cedar. The state owns roughly 25,000 acres of cedar swampland, which, he says, is not being managed, and is off-limits for harvest. "It's tough in New Jersey," he says. "People don't like seeing trees being cut down, but they don't mind seeing 50 acres being cleared for a shopping center, and sending all the wood through chippers. A lot of loggers have gone into land clearing and development. Any land that is buildable has been developed. It used to be a pretty rural area, but with casinos 20 miles from us, that's changed the economy in this area."

He concludes, "I have three young kids. Maybe they'll work at the mill. There are easier ways to make a living. I enjoy what I do. I enjoy being able to drive past someone's house and say that I cut the siding. I like it that I've produced something at the end of the day. We try to hang in there. As long as we can get permits and access to timber, we'll be here." ■

*Dave Boyt has a BS degree in Forest Management and an MS in Wood Technology. He manages a tree farm (2006 Missouri Tree Farm of the Year), and operates a band saw sawmill.*



High-quality cedar house logs and sawtimber harvested on the Haines Certified Family Tree Farm. The Haines family has been stewarding this forest since the 1880s and struggles to find markets for their high-quality AWC timber.

thought or effort given to the economics of the forest that clearly would pay for all of our forests' stewardship needs.

In most cases, those who claim to care more about forests, or in this case, Atlantic white cedar ecosystems, would have the public believe it is wrong to make a profit from a forest. They would have us believe state government can continue to spend \$2,000 to \$3,000 per acre to restore cedar forests at the taxpayers' expense when, in fact, if the forest were allowed to, it would pay for its own stewardship tenfold over.

The New Jersey Department of Environmental Protection, Division of Parks and Forestry, has been forward thinking with regards to the Atlantic white cedar resource. Through the Atlantic White Cedar Steering Committee it brought together a wide range of stakeholders and developed the Atlantic White Cedar Ecology and Best Management Practices manual. Landowners now have a science-based document that can be followed during all phases of Atlantic white cedar management, including the regeneration, restoration, and harvesting of this valuable resource.

## CONCLUSION

There are those who would like to see New Jersey's last cedar mill fade into the sunset. They would then push for government grants to restore the mill as an historical artifact to enable school children to see the historical cultural history of southern New Jersey. Research and science supports a more sustainable approach. We need to begin to support existing local forest industries and the return of them to areas that have lost their wood products industry throughout the United States. Children need to be able to visit viable working mills and working forests to truly appreciate their importance in their daily lives. ■

*Bob Williams is a Certified and Registered Forester working in the Mid-Atlantic Region. He manages approximately 125,000 acres of private woodlands and serves as the vice president of the New Jersey Forestry Association. He can be reached for cedar information at [bob@landdimensions.com](mailto:bob@landdimensions.com).*

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