



## FIELD work

By Carolyn Haley

### At Work Milling Ship Masts with "Duke" Besozzi

**When Charles "Duke" Besozzi looks at a big tree**, he sees bowsprits, masts, and decking in its contours. This is a change from what he used to see when he was a commercial logger for the general market. These days he's more of a broker, locating the specialty timber needed to build or restore wooden ships, then processing the logs into the oversized raw material desired by shipwrights. He is constantly on the lookout for large white oak, eastern white pine, longleaf pine, and black locust – the four species most used for maritime construction.

When the phone rings, it usually means someone has come across a tree large and clean enough to warrant the high price he offers, and Besozzi must hotfoot it to the harvesting site. If no heart rot or other significant flaws are revealed when the tree is dropped, he arranges for the entire thing to come to his yard.

Yes, the entire tree – that is, delimbed and stripped of minor branches. Limbs over 16 inches in diameter still have value, so they get shipped on a second truck. "Their natural sweep can be very desirable for shipbuilding," says Besozzi. "It's the antithesis of regular logs."

Nevertheless, the gamble is on the tree, which gets hauled on a flatbed tractor-trailer, since regular logging trucks are often too short. Sometimes for the big boys – the 70-plus footers – Besozzi has to secure special clearance and an escort from the Department of Transportation in order to move the treasure.

Mega-trees have always been treasures, both to the shipbuilding industry and to Besozzi himself. Though the market for mainmasts and bowsprits isn't what it used to be back when the King of England reserved the tallest, straightest white pines in the American colonies for the royal navy, there are still boat builders who need very large, superior logs for their custom construction or restoration of magnificent sailing ships, such as schooners and whalers. Besozzi happily supplies these woods, blending a 30-year career in logging with a lifelong fascination for maritime history.

Those years took their toll, as Besozzi illustrates with a hand that's missing three fingers. He wanted a niche that reduced the labor and risk while adding

purpose. Seeing his work result in the revival of historic watercraft gives that satisfaction, as does fraternizing with master boat carpenters in shipyards along the New England coast.

Besozzi's chance came in 1989 when he sold some raw logs to Mystic Seaport in Connecticut, which needed eastern white pine for decking on the *Charles W. Morgan* – the only surviving wooden whaling ship in the United States. That led to sawing out specific lengths for deck beams for a reproduction 18th-century trading vessel, the *Friendship*, built in Albany, New York, for the National Park Service. Since then, Besozzi has provided white oak "four inches thick and perfectly clear for 28 feet" for the *Bluenose II*, a reproduction of a famous Nova Scotia fishing and racing schooner. When it was time to replace the bowsprit of the *Charles W. Morgan*, he came up with 41 feet of a 30-inch-diameter eastern white pine. That tree, he says, took two years to find – a tip from a state forester led him to the jackpot in Stafford, Connecticut.

Once delivered to Besozzi's yard in Cornwall, Connecticut, a tree goes into the hands of his sawyer, Jeff Woodward. Together they form New England Naval Timbers, a semi-family affair housed on Besozzi's grandparents' land. Woodward, son of Besozzi's good friend Tony Woodward, has been working in Besozzi's yard since the sixth grade and is now a master sawyer.

"We take big logs and make them into flitches," says Woodward, explaining that a flitch is a large slab intended to be resawn by the



Once a commercial logger, Charles "Duke" Besozzi now sees the masts, frames, and sternposts of ships when he looks at trees.



shipwright, similar in concept to bar stock for metal fabricators. The ability to render huge trees into workable size is the heart of the company's business. Besozzi invested in a customized version of the Australian-made Lucas Mill Dedicated Slabber, which can saw the entire length of a 56-foot trunk. This mill normally comes with a 20-foot track, but Besozzi's is 60 feet long and 62 inches wide, with a bigger motor than is standard and more drop (height adjustment), in order to cut the greater lengths and thicknesses required for shipbuilding. Each pass, he says, takes only about 10 minutes, depending on the width of the flitch. New England Naval Timbers cuts flitches in 4-inch-thick units called quarters and commonly gets half a dozen flitches per tree, each weighing thousands of pounds.

The logs are positioned on the mill using a sophisticated laser transit. Then, Woodward explains, "A log lies on the pad while the saw goes through it horizontally, cutting with the grain. We use a chain with fewer teeth, set every 8 to 10 inches and ground to a 10° to 15° angle. We buy our chain 100 feet at a time from Bailey's in California, and use a Silvey – the Rolls-Royce of sharpeners – to sharpen it. Our 70-inch bar is custom made in Oregon."

Sourcing tools from the Northwest makes sense, as that is where stands of mighty timber can still be found. In fact, Besozzi notes, "Some people look to the West Coast for Douglas fir because it's straight and big and available." But where possible, shipwrights prefer to use traditional Northeast woods; in a restoration, they may need to match existing materials. Hence the eastern white pine, which, says Besozzi, "doesn't get slippery under wash. It's the traditional decking used on old Gloucester fishing schooners and Herreshoff sailing yachts, as well as for masts, yards, and bowsprits," such as in the *Charles W. Morgan*.

White oak, he adds, is favored for backbone components like the keel, stem, and sternpost, whereas longleaf pine and black locust are prized for their rot resistance, and thus are used for planking and frames. Regardless of species, says Besozzi, "slow growth rate is important – the number of rings per inch – for density and strength." And, of course, older trees have the requisite height and mass. To find them in the northeast woodlands, Besozzi has built a network of loggers, foresters, arborists, and landowners who inform him of blowdowns or prime specimens they encounter in their work.

"Everybody in the industry is always keeping an eye out for really big ones," says Besozzi, "because we pay two to five times more for stumpage." The right trees turn up in unexpected corners of Connecticut, the Hudson Valley in New York, and the Berkshires in Massachusetts; in areas that were never harvested, such as ravines, private parcels; and often in the suburbs, where they might have been protected for generations in backyards, along Main Street, or shading village greens. Leads come from as far away as Pennsylvania and Ohio, where Besozzi hears from Mennonite furniture makers.



DUKE BESOZZI

Jeff Woodward unloads a white oak log for New England Naval Timbers, Besozzi's semi-family business. Woodward has been working in Besozzi's yard since the sixth grade and is now a master sawyer.

The bulk of New England Naval Timbers' work is for marine customers, with the balance serving large-scale landscape architects and high-end furniture makers and architects. On a given day, Besozzi and Woodward cycle between projects at different stages of development, with Woodward handling sawing and inventory and Besozzi manning the phone and venturing into the field. Some of their inventory is post-and-beam stock, Woodward mentions.

Maneuvering giant stock in the yard requires more than conventional skidders and logging trucks – namely, a 40-ton excavator. "One white oak from Ohio weighed 30,000 pounds," says Besozzi. Its 54 feet of length and 31 inches of diameter yielded 3,000 board feet. Another oak, harvested from an old YMCA camp in Salisbury, Connecticut, yielded about 2,500 board feet. That wood was used for the *Coronet*, a wooden-hull schooner from the 1880s (now listed on the National Register of Historic Places), which is being restored by the International Yacht Restoration School in Newport, Rhode Island. On average, Besozzi says, they net 1,000 to 1,200 board feet per tree.

Currently, New England Naval Timbers is supplying just about all the wood for a new schooner being built in Martha's Vineyard: white oak for the keel, frame, stem, and sternpost, and eastern white pine and longleaf pine for the planking and decking. Projects like these keep Besozzi involved in the forest he loves while helping to keep America's maritime history alive. He has become the go-to guy for boat builders everywhere, continuing the long relationship between the northern forest and the sea.

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