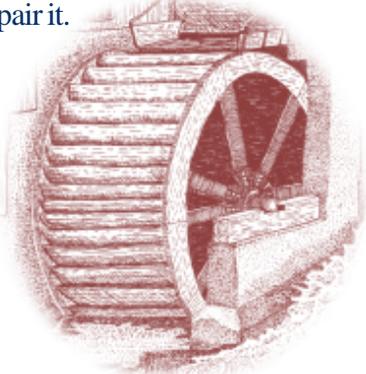


## WHEEL RESTORATION PROJECT

Since 1953, the State of New Hampshire has owned the last up-and-down sawmill in the state. Water-powered Taylor Mill on Ballard's Pond in Derry had been silent for a couple of years, its ponderous water wheel rusted and decayed, with no state funds to repair it.

Nel-Tech Labs of Manchester, manufacturers of digital equipment, stepped in. Over a two-year period, the old wheel was disassembled, its design carefully documented, and new white oak was ordered to replace the rotted wood. The wheel was rebuilt to closer tolerances than it had been when new. The firm invested over \$40,000 in materials. Even more important, company personnel and local volunteers made a priceless contribution of time, ingenuity, and mechanical skill to bring the machinery back to life.



Thanks to Nel-Tech, the mill has been restored to working condition. Taylor Sawmill once again takes visitors back 200 years for an impressive glimpse of the marriage between technology, water power, and forest wealth that made New Hampshire's name familiar throughout Europe and the transatlantic world.



## GENERAL INFORMATION & DIRECTIONS TO THE MILL

Taylor Mill is the property of the Department of Resources and Economic Development and is cooperatively run by the Division of Parks and Recreation and the Division of Forests and Lands.

The mill is currently opened to the public for sawing demonstrations several times during the summer, offering visitors a glimpse into the beginnings of New Hampshire's forest products industry.



### *Hours of Operation:*

Second and fourth Saturdays,  
Memorial Day through Labor Day.

Please check our website

([www.nhdf.org/info\\_plan\\_bureau/taylormill.htm](http://www.nhdf.org/info_plan_bureau/taylormill.htm))  
to verify the operating schedule.

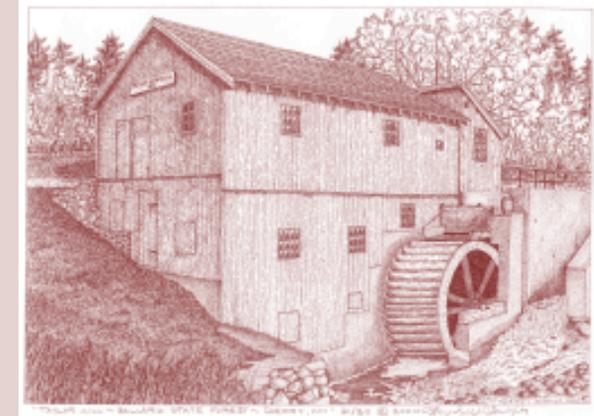
**For information and group reservations,  
please call the Urban Forestry Center at  
603-431-6774.**

The Mill is located at 242 Island Pond Road in Derry.

### *Directions to the mill from I-93:*

Exit 4 East on Route 102, to Route 28 By-Pass South. At 2nd set of lights, take left onto Island Pond Road. The mill is 3.7 miles on the left.

# TAYLOR SAWMILL Historic Site



**A Cooperative  
State Historic Site**



NH Division of  
Parks and Recreation  
[www.nhstateparks.org](http://www.nhstateparks.org)



NH Division of  
Forests and Lands  
[www.nhdf.org](http://www.nhdf.org)

# HISTORY OF THE MILL

The 200-year-old “Taylor Up and Down Sawmill” is situated on the 71-acre Ballard State Forest in Derry, New Hampshire. Robert Taylor, for whom the mill is named, bought the property in 1799. Around 1805, Taylor began operating a sawmill similar to the one currently in operation. The date when Taylor’s original mill stopped running is unclear.

Most of the original mill had been sold for scrap when Ernest R. Ballard purchased the land in 1939. Mr. Ballard searched extensively over much of the New England area for another “up and down”

sawmill and finally found one in Sandown owned by Dan Hoit. The mill had been disassembled 50 years earlier and was stored under a barn. Mr. Ballard paid \$180 for it. He and his wife spent two years assembling it and finding the necessary parts to bring it to operating condition.

Mr. Ballard was unable to locate a historically correct wooden water wheel, and learned of the astronomical expense of getting another built by hand. He ultimately purchased one for \$3,000 from the Fitz Water Company in Hanover, Pennsylvania. The wheel was six feet wide, 12 feet in diameter, weighed about 1,000 pounds, and had 40 buckets.

The capacity of today’s Taylor Sawmill is limited to logs 12 feet in length and 28 inches in diameter. The

mill operates at about 60 strokes per minute. The log carriage can feed the saw from 1/4 to 3/8 of an inch per stroke. Records indicate that other up and down sawmills were capable of sawing logs up to 38 feet in length with a diameter substantially larger than the capacity of the one at Taylor Mill.

This mill represents a long history of producing forest products in New Hampshire. The forest products industry continues to be a major part of the state’s economy today, as it constitutes the third largest manufacturing sector in the state.

Mr. Ballard very generously donated this entire property, including the sawmill, the house nearby, and 71 acres of land, to the State of New Hampshire in 1953.

## A BRIEF HISTORY OF SAWMILLS AND LUMBERING IN NEW ENGLAND

The first sawmill in New England was a pit saw, built in 1623 in York, Maine. It was structured to enable one man to stand above the log and one in the “pit” below. The pitman supplied most of the saw’s cutting power by pulling down. As you can imagine, the pitman was constantly covered with sawdust.



1634 marked the first shipment of New England masts to England. The trees were white pines, 24 inches or greater in diameter, and were used as ship masts for the King’s Navy. The pines were branded with a broad arrow to show ownership by the King. Although the King forbade cutting of these marked pines, the colonists cut the branded pines anyway. They made the boards less than 24 inches wide to prevent detection.

In 1703, the first water-powered “up and down” sawmill was built on the Salmon Falls River, located in South Berwick, Maine. This mill employed the technology of the day: Water from a river was diverted down a sluiceway and emptied into the buckets of a water wheel. The water wheel then rotated, turning pulleys and gears, and finally drove the long saw blade “up and down.” Up and down sawmills were operated until after the Civil War when most were converted to a new invention, the circular saw. This is the same type of saw we still see in many mills today.

Up and down mills were in use from the 17th to mid 19th century. By 1706, 70 water-powered sawmills were operating within a day’s ride of Portsmouth. With the invention of the circular saw, those mills with enough waterpower were able to convert, greatly increasing their production. Around 1860, some mills converted to steam power, but it was not until the early 1900’s that steam-powered mills predominated over water-powered mills. The lack of dependence on water allowed the mills to operate year-round rather than from April to December. Portable steam mills brought directly to the logging site eliminated the trucking of logs to the mill. The 20th century brought on the gasoline engine, the diesel engine, and the use of electricity. Many mills have converted from steam to diesel power only within the last 25 years. Now, most are electrically operated.

