

Written for fundraising for the restoration of the Jonathan Young Windmill.

Restoration efforts began 1982.

The mill was restored and dedicated on July 4, 1990.

## The Jonathan Young Windmill

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Known also as Elisha Cook's Mill and Captain Hunt's Mill, it was first noted on the 1798 survey map of Eastham (now Orleans) on Kendrick's Hill, South Orleans. At that time it was known as Elisha Cook's Mill. In 1839 the mill was moved to Young's hill (the present site of the Governor Prentice Motel) next to D. L. Young's store. In 1890 there were five owners on record, Jonathan Young, William Mayo, Joseph K. Gould, Francis Young and David L. Young. Many 18th and 19th century mills were owned cooperatively. In 1897 Captain Hunt, a wealthy sea captain, bought the mill and had it moved to his estate in Hyannisport. Since Young's hill was only a quarter of a mile from Town Cove, the mill was moved by oxen to the Cove and then barged around to Hyannisport for around \$500.00. Captain Hunt restored the mill and ran it into the early 1900s. In the early part of this century, the Grove family bought the Hunt estate and now due to a death in the family the heirs are selling it and have given the mill to the Orleans Historical Society who have in turn given it to the Town of Orleans. It has been dismantled and moved back to Orleans for around \$5,000.00.

This 18th century smock mill is unique in that there are precious few windmills left anywhere in the United States to restore. It was relatively intact and was missing only parts of the sweeps and tail pole. The process of dismantling began with a careful numbering and color coding of each separate piece of the mill. The next step was to remove the spokes from the brake wheel and pull the wind shaft, The cap was then hoisted off by a crane and the brake wheel, pinion shaft and stones were taken out through the open top. Several anomalies in construction indicate that the mill was either built or rebuilt at some time with parts from another mill. The ravages of time and weather have taken their toll and some of the original structure will have to be replaced.

With the restoration of the Jonathan Young Mill, Cape Cod could boast six restored and working windmills and three restored and working watermills. It has been noted that with the coming of Barnstable County's Tercentenary in 1985, that if a Salt Works and Tide Mill were reproduced, it would complete the picture of early energy producers along a coastal area.

### **The Jonathan Young Windmill — To Be or Not To Be?**

At one point in time there were four windmills operating in the town of Orleans. The town adopted one of these to be replicated as the town seal. One of the local newspapers incorporated another in a heading for the town news column. The Historical Society also uses one as part of its logo. Over the years these mills have vanished one by one either by removal to a new location or by becoming part of another structure. In 1965 the town of Orleans was offered the restored and working windmill owned by Charles Campbell. The voters were asked for \$20,000, to be matched by another \$20,000 raised privately to buy the mill. Later the price was lowered to \$25,000, a cost to the town of \$12,500. The finance committee disapproved and the article was indefinitely postponed. Then selectman, Arthur Finley, said he didn't feel tax money should be used. The mill was sold and moved to Heritage Plantation in Sandwich in 1968 where it is on display as an historical exhibit. In the late 1970's a windmill in South Orleans was offered for sale for \$35,000 with the stipulation that it be removed from the property. Although the working components were missing and the exterior structure was all that remained, it was another opportunity missed to acquire one of the town's original mills. The town of Orleans was given a reprieve for its shortsightedness in the spring of 1982 when it was offered as a gift the Jonathan Young windmill, one of the original four mills. The town graciously accepted the gift and voted \$10,000 at town meeting in May

of 1983 to proceed with the dismantling of the structure and its removal back to Orleans. That done, the question still remains unanswered as where to put it. Once that issue is settled restoration can proceed. The town officials of Orleans feel that the restoration of the Jonathan Young windmill can be accomplished by volunteer lay labor. The chairman of the finance committee says that they might not approve anymore funds for its restoration. This paper is a consideration of the presumption that lay labor cannot restore the Jonathan Young windmill to safe, operative condition and maintain the historical integrity of the mill. It is also a consideration of the costs of previously repaired and restored windmills and of avenues of funding for this type of restoration.

In considering the restoration of a windmill, one must first have some expertise in the building and operating of such a mill, It therefore seems logical to study the original experts in this field — millwrights and millers. It would also seem logical to consult those who have had some experience today in the areas of mill wrighting, milling and the funding of such a project.

### **The Millwright**

The art of the millwright was difficult and highly specialized, being likened to that of the shipbuilder. The millwright had to have some knowledge of architecture, carpentry, engineering and mechanics since brakes, cranes, gears, levers, pulleys, screws and wedges were incorporated into the building of a mill. In days gone by a mill was so essential to the very existence of the townspeople that it was often built as a town facility which came under the jurisdiction of town officials, requiring a permit and stipulating certain rules and regulations. Some townships persuaded millwrights to build in their town by offering them one or more of these inducements: a parcel of land, a percentage of meal produced a postponement of taxes for a certain number of years, and perhaps even a subsidy to build the mill, occasionally settled in town after building the mill and took on the job of the miller.

### **The Miller**

The miller, aside from operating the mill, was many things — a carpenter, an engineer, a mechanic, a weather forecaster and if necessary, a blacksmith, If he was not the builder, he had to know the mechanical principles of levers, gears, pulleys, cranks and screws and where each piece was located and its relation and use to, other pieces. Because the mill was dependent on the wind for its source of power, the miller had to be constantly on guard since a rising or strong wind, without the hoppers empty, could start a fire which could burn the mill to the ground.<sup>1</sup> If this happened, the miller could turn the can to set the sails at right angles to the wind. Unexpected squalls catching the sails at an angle could blow the cap off or in the case of post mills the whole structure could blow over.

It required a great deal of skill and ingenuity to run a mill. As well as the danger of structural damage occurring in high winds, there was constant danger of fire from heat generated by friction in an over driven mill. The problem of regulating the machinery to the uneven and unequal force of the wind is one that still remains unsolved today.

Before the mill could be operated, the miller had to set the sails. The less wind the more the vane had to be covered. If the wind picked up too much he could “furl” the sail to slow it down. Another chore to tend to before production started was the greasing of the gears with tallow or mutton. The wind shaft bearing was also greased. It was essential for the miller to know the proper amount to use since the machinery must not be allowed to get too dry or to run too swiftly and cause overheating and a possible fire. At times it was necessary for the miller to lift the runner stone and “pick” or clean the clogged furrows of both stones. It was also up to the miller to determine the correct distance between the stones to produce the desired texture of flour or meal. Too small a space meant a too finely ground product and too great a space resulted in coarse and uneven flour or meal. After all the machinery was in order, the brake was released and the sails set in motion, the miller filled the hopper with grain or corn and production began. He then went to the lower floor to test the flour or meal, adjusting the stones if necessary and making sure a bag was in place on the end of the trough below the chute where the flour or wheat funneled out, The miller generally had an apprentice called a “dusty” who did all the dirty (or dusty) work, hence the name “dusty miller”.

The miller was so essential to the community that he was considered a privileged character. A town mill was untaxed, the miller was exempt from military duty, he need not hold town office and was often given a piece of land next to the mill on which to build his house. His pay was a stated percentage of the meal or flour called a “pottel”. A pottel was simply an agreed upon measure. Jim Owens says that on the Cape it was 1/16. In 1635 the Massachusetts Bay Colony passed legislation fixing it at a generous 1/6. Some colonial millers were respected and influential men, while others possessed a reputation for dishonesty. Legislative curbs and punishments attest to these. A prohibition against taking excessive toll and the setting of penalties and fines for violations figured in every revision of the Virginia law throughout the 17th and 18th centuries.

### **A Present—Day Millwright**

Lester Bassett has had some experience in the field of millwrighting. He came from a lone tradition of builders. His grandfather, father and several uncles were all builders. He himself was a builder for 52 years and worked on numerous restorations including the Baxter Watermill and the Old East Windmill. He restored the Old East Mill to working conditions in the late 1950s for Charles Campbell for the cost of about \$10,000. The repairs to the interior were extensive and included replacing the windshaft with a white oak from the Allagash in Maine, constructing a new “pillow” or bearing for the windshaft to ride on, and replacing a cant beam or “leg” of the framework. The exterior was completely re-shingled. When parts were missing he had no patterns to work from and had to figure out dimensions for himself. When the Old East Mill was sold to Mr., Lilly, the founder and owner of Heritage Plantation, Sandwich, Ma., Lester Bassett was put in charge of the move and of setting it up in working condition. He also made several repairs to the mill after that due to wind damage. He worked for Mr. Lilly for four or five years after that at Heritage Plantation. His pay during the early and mid sixties was \$100.00 a day. It is his professional opinion that a structure such as a windmill cannot be restored by lay labor unless those laborers have a solid background in the construction of old buildings.

### **A Present—Day Miller**

James Owens is a part time miller at the Eastham Windmill. He has visited windmills in the eastern United States and Europe and belongs to The Society for the Preservation of Old Mills (SPOOMS) and The International Molinological Society (TIMS). These societies provide their members all over the world with the latest in mill news. Here is a partial listing of what the town of Eastham has spent on its mill:

1928 — \$500.00 to buy the mill  
1929 — \$200.00 repairs  
1930 — \$600.00 repairs  
1933 — \$400.00 repairs  
1940 — \$ 87.00 to dress the stones  
1946 — \$800.00 repairs  
1952 — \$600.00 repairs (shaft)  
1953 — \$400.00 repairs  
1967+68 — around \$5,000.00 for repairs to the foundation and maintenance to parts that had suffered dry rot and to re-shingling the exterior with the exception of the cap.  
That same work today would probably cost around \$15,000 — \$20,000.

He wants to ask the town for \$10,000 to rectify mistakes that have been made in restoration over the years. He feels that because the forces of nature come directly to bear on the entire structure of the mill when it is operating, unless the restorers understand the structural material and the operational structure from a miller’s standpoint, they cannot restore it to safe, operative condition.

## **A Fundraiser**

Marian Wylie, President of the Brewster Historical Society was a driving force behind the moving and the funding of the restoration of the Higgins Windmill in Brewster in 1974—76. The mill was given to the Town with the stipulation that the Town would find a spot for it and restore it to operative condition. The Drummer Boy Museum donated a lot and the mill was moved in two pieces by flatbed trailer truck. A new foundation was put under it and other repairs made along with re-shingling. The cost of the move plus restoration was about \$17,500 (do not publish this figure without consulting her for the exact figure). The project was funded in part by a Bicentennial matching grant from the State for \$2,500. The donor of the mill gave \$2,000 (Marian wasn't sure if this amount was matched or not) and the rest of the money came from fundraising drives. They got their materials at cost and some of the labor was volunteered.

Mrs. Wylie feels that lay labor cannot restore a mill safely and that someone with expertise on how mills operate is needed to guide the project. Craftsmen are needed who are capable of doing the work. She suggests that if people want to volunteer their time and they aren't qualified to work on the restoration per se that they could get involved with the fundraising aspect of it.

## **Funding a Restoration Project**

When a town receives a gift such as the Jonathan Young Windmill, it becomes the responsibility of the town to fund its restoration and its continued maintenance. However, that does not necessarily mean that the tax payers must bear the entire cost of the project. There are avenues that can be explored that could help subsidize such a project. For instance, the Town could appeal to the Massachusetts Historical Commission, Grants Department. On inquiring whether there was any funding available for the restoration of the Jonathan Young Mill, I was told there were a number of ways that it (the mill) would be considered eligible:

- 1) If it were standing and was listed on the State or National Register of Historic Places (Nantucket's mill got funds this year under the Job's Bill, but it is listed on the National Register
- 2) If it were standing and threatened by demolition or is in such bad repair that it was in jeopardy, then it could be granted emergency funds
- 3) If it were standing and a commercial property and listed on the National Register, then it could receive funds under the Tax Act
- 4) Or if the Orleans Historical Commission finished the Town's Historic Properties Survey and a whole area of town was eligible for the National or State Register and the mill was to be erected in that area, then the town might receive some funds. Since the Town and the Mill do not meet any of these prerequisites, they are not eligible for State funds. At the rate the Town's Historic Properties Survey is moving, it won't be finished for another eight years. So the State does not look like a possible source of funding at this time.

Several other fundraising attempts have already been launched. A letter has been printed and circulated amongst the business community asking for donations which would be tax deductible. A pewter plate with the windmill on it has been cast and is for sale with a portion of the proceeds going toward the restoration costs. A window display was set up in the town library featuring windmills and asking people not to forget to contribute. Press releases from time to time along with slide shows with a nominal admission fee would help to keep the project in front of the townspeople and alive. If \$15,000 could be raised through private donations and added to the \$5,000 left from the dismantling and move home, perhaps a matching amount of \$20,000 could be asked for at town meeting. A total cost to the Town of \$30,000 for this type of project and addition to the Town does not seem unreasonable to me. The fate of the Jonathan Young Windmill rests in the hands of the people of Orleans. -

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