

published in *New Castle Islander* magazine, May 2013 issue, pp. 12-13.
rev. July 2019

New Castle Historical Society: Mill Ponds and Grist Mills

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All along the New England coast, one of the first things settlers did was to build mills to grind grain and saw timber. They took advantage of the topography to build tide mill dams that would fill with water on the incoming tide and then control the outflow on the outgoing tide to power mills. In New Castle we can clearly see the remains of two such mill ponds today, that once powered three mills. Of course times change over the nearly 400-year history of this area and all traces of the original mills are gone and the mill ponds are now used for recreation.

Both mill ponds are on the west side of New Castle, incorporating some of the Back Channel islands. Unless you live in one of the adjacent neighborhoods, or have discovered them by small boat or from maps, you may be completely unaware of their continued existence.



Mill locations.

The more northern mill pond is at the ends of Laurel Lane, Grist Mill Lane (hint, hint), and Ritson Street, overlooked by Locke Road. The dam runs from Mill and Long Rock Islands (a favorite jumping spot for generations of kids) to Birch Island and then back to the main shore. The more southern mill pond is behind the Wentworth Hotel, adjacent to the neighborhoods of Campbell's Island, Mill Pond (hint, hint), and Duck's Head. See the aerial views from Google Earth (not to the same scale).

The mills themselves are long gone and we have no details of their operation, but we can study other mill sites along the Maine coast and in Europe. The main source for more information is the Tide Mill Institute (www.tidemillinstitute.org). Once a mill pond was constructed with one or more dams, the mill was built with gates that opened on the incoming tide and closed on the outgoing tide. That means operation shifted during the day with the tidal cycle, making it hard work for the mill operators. When a sufficient head of water existed, after the tide outside the mill pond was ebbing, falling water turned the shaft and any pulleys that turned the mill stones, operating for 4-6 hours on each tide cycle. These were either undershot vertical wheels or horizontal wheels in a tub. In both cases water was directed through a sluice or penstock, using the falling water to drive the

paddle blades on the wheel. Mill stones were in pairs, with a fixed bed wheel and a runner wheel that turned. The stone faces were cut with patterned grooves and did not quite touch, as the grain was ground between them. In many places, but probably not in New Castle, this power was also used to run saw mills. An addition of a cam could make it power a trip hammer.

One of the few specific accounts of a New Castle tide mill tells of its destruction, reported in the newspaper *Portsmouth Journal* in January 1843:

On December 30, Friday, the only grist mill at New Castle, owned and improved by Messers James Richardson and Son, was, with its contents, destroyed by fire. In the storm of that day, the strong easterly wind caused the tide rise to an unusual height and surrounding the mill, cut off communication with the land, The water at 11 a.m. came in contact with a barrell of lime, set it on fire and soon the whole building, to the water's edge, was in flames. About 50 bushel of grain or meal were consumed.

Sic transit Gloria mundi!



Google Earth view of the Wentworth mill pond now -- with one long dam and opening. Wentworth Hotel is at the bottom.



Artist's drawing of the Wentworth mill pond circa 1884, from John Albee's book about New Castle.



Outflow, left to right, through the low point in the Wentworth mill pond dam, looking toward Sagamore Creek.



Google Earth view of the northern mill pond now Dams are on either side of the small Birch Island.



Dam connecting Long Rock Island to Birch Island.



Remnant of a mill stone from the Long Rock mill pond,
now on the lawn of the Historical Society.