



the TIDE MILL TIMES

TIDE MILL INSTITUTE

Committed to Sustainable Industrial Heritage

www.tidemillinstitute.org

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10 pages

TIDE MILLS NEAR AND FAR: TMI's NEXT CONFERENCE

TIDE MILL INSTITUTE's next annual conference, October 27th and 28th, will be held in Portland, Maine at one end of the Stroudwater causeway that once sported an unusual tidal grist mill with a wind mill on its roof. Speakers from the area will tell the story of that mill and others that made this coastal region a hub of tide mill activity. Others will share their hands-on experiences researching mills far from the region - one at what's probably the oldest tide mill in France and the other in South Carolina with rice mills that were driven by freshwater tides. Those at the conference will enjoy a low-tide field trip to view three local tide mill sites.

To register, contact info@tidemillinstitute.org or by phone: 207-946-4156. **SAVE THE DATE!**



STROUDWATER GRIST MILL - This watercolor by Madura F. Atwood will be shown at TMI's October conference. (Courtesy Tristram Thompson)

PERKINS MILL RECONSTRUCTION BLOCKED !!



The Maine Superior Court recently overturned the town's planning board's OK for the Kennebunkport Conservation Trust to build and operate a reconstruction of the 1749 Perkins Grist Mill as the only working tide mill in America. A group had opposed the Trust's plan, fearing that it would negatively impact the now residential character of their neighborhood. Rather than basing its decision on purported noise or fire danger from the mill, the court reacted to certain zoning issues it said were germane. The Trust is appealing to the Maine Supreme Court.

The original mill operated until about 1930, when it was turned into a tea room. A 1990 fire destroyed the structure. The Trust carried out an extensive archaeological study of the site and was prepared to begin construction in the spring of 2016. At one of the planning board's hearings, TIDE MILL TIMES spoke in favor of the project.

TMI BUSY INTERACTING

There's a lot of interest in America's early tide mills! More and more people are contacting TIDE MILL INSTITUTE with questions and comments. The following will give you an idea of some of the interactions we've had since our last issue.

Tide mill remains - MURIEL DAVISSON reports from Bass Harbor in Trenton ME about a former tide mill there whose remains can still be seen at low tide.

Making connections - We mentioned to DEB DYER, curator at the Bar Harbor Historical Society, about seeing a tide mill site in nearby Pretty Marsh. She excitedly responded that her family had always talked about her great-great-grandfather's running a tide mill there. Our information was the first tangible link she's had to that family story.

Cultural impact of mills - JOE HALL, an associate professor of history at Bates College, has been studying the cultural impact of colonial dams (tidal and otherwise) on Maine's native peoples. He's shared an interesting paper in which he describes how in 1717 tide mills in Arrowsic were a proposed marker between colonial and native territory.

Searching tide mills - BONNIE HEALEY is searching with us for two tide mills in Trescott ME - one mentioned by Walter Wells (1869) in Moose Cove, and we're looking for another in Talbot Cove.

Finding Casco Mill - For several years FORD REICHE has corresponded with us about Casco Mill, which was noted in early histories of Falmouth ME, but whose location has never been defined. He's sure it was a tide mill, and feels he's identified its site. He will share his research in October at the conference in Portland.

Mussel Cove Mill - Artist LESLIE SAFFORD began corresponding with John Goff several years ago about growing up at one end of the Mussel Cove tide mill, also in Falmouth ME. At October's conference, she'll offer participants some reminiscences well as a few paintings she's done of the area.

Friendship mills - Browsing Google Earth one day, we noticed what looked like interesting remains near the head of Back River in Friendship ME and queried the

local librarian. SYLVIA BRIGGS responded several times, and took several low tide photos of what might well be an as yet undocumented tide mill.

Flap gate stuck? - DEBORAH POWELL, associated with the Bergen County Museum in River Edge NJ asked about machinery in the 1744 Zabriski Mill at New Bridge Landing. An early illustration of this mill shows a man pulling on a rope to open a flap gate. We didn't know anything about the mill's machinery, and thought that flap gates normally worked automatically.

Would he have had to do this on every tide? If so, it must have been a most onerous task!



Image from Bergen County Historical Society

Where was it? - TEAL HUGO asked about the location of Berry's tidal grist mill in West Bath ME. She was surprised to find out its dam has been in plain sight as she's driven past it for years.

Planning a TMI conference in New York - We are currently working with the Greater Astoria Historical Society of Queens to develop a tide mill conference there for spring of 2018. Stay tuned!

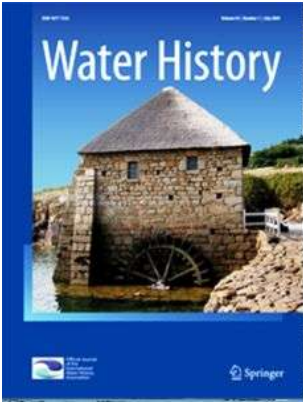
INTERNATIONAL

Tide mills in the Netherlands - FRANS LIMBEEK has shared the link to a data base of 43 Dutch tide mills. Though it's in Dutch, English speakers will find the images of interest: <http://www.molendatabase.org/>.

Plunkett at work - Our friend DAVID PLUNKETT continues to document tide mills in the UK. His most recent field work in Cornwall has yielded good information and fine photographs.

Tidal energy conference - In late June, your editor was privileged to be asked to attend and speak at a three-day conference in Rennes, France *Tidal Energy; Yesterday, Today and Tomorrow*. We were "Yesterday!"

THINKING ABOUT TIDE MILLS



Those of us who are interested in tide mills sometimes focus just on technological aspects of our craft and forget the rich human and cultural history of the mills we study. The following section of an editorial appeared eight years ago in the very first issue of Water World, the magazine of the International Water History Association. The questions it suggests should be asked about tide mills are well worth considering each time we consider the story of any mill.

The Tide Mill as a Symbol

These analyses make clear that a tidal mill does not mean much without a social context. Why would people be prepared to invest the considerable amounts of labor and material required to construct and maintain such a structure? Perhaps using the tide was the only option available, but it could also have been the best option accessible for certain groups. The tide mill typically operates in salt water conditions and only under certain conditions. . . Keeping the mill working was a challenge, but the yields must have warranted the effort. How was the labor needed to maintain the mill organized? Who was responsible for organizing and managing this labor? A related issue is the daily operation of the mills. As the tidal sequence shifts in time, milling operation times shift as well. Occasionally, mill operators had to work through the night. Which products were made in the mill? How was the production transported to consumers or users? How far were these users located from the mill? What forces drove the industries supported by the mill? Overall, understanding the history of a tide mill requires an analysis of the material and cultural uses and meanings of water.

Water World, No.1, July-December 2009

TIDE MILL ARTICLE & A *TMI* AD

Look for an interesting article about tide mills in the upcoming September/ October issue of *Early American Life*. One of that magazine's contributors, Winfield Ross, interviewed us in June and asked for names of others in the tide mill community with whom he could talk. He reached them all, and produced a well-rounded, readable and well-illustrated feature.

Our thanks to *Early American Life* for its interest in tide mills as part of the country's early industrial heritage and to its art department for designing such a fine advertisement for our October conference.

The advertisement is for the TIDE MILL INSTITUTE 13th Annual Conference. At the top, there is a photograph of a white house with a black roof situated on a grassy bank next to a body of water. Below the photo, the text reads 'TIDE MILL INSTITUTE' in a bold, red, serif font, followed by 'A research and educational organization' in a smaller, black, sans-serif font. Below this, there is a white box with the text 'Join us in celebrating America's tide mill heritage!' in a black, sans-serif font. Below the box, the text reads 'TIDE MILLS IN OUR LIVES' in a bold, red, serif font, followed by '13th Annual Conference' and 'October 27-28 - Portland, Maine' in a black, sans-serif font. Below this, there is a line of text: 'Lectures, discussions, interactions, low-tide field trip to early mill sites, annual meeting. CONTACT US for information or a free newsletter!' in a black, sans-serif font. At the bottom of the advertisement, there is a photograph of a large, circular stone dam structure in a body of water. Below the photo, the text reads 'TIDE MILL CAPITAL OF AMERICA' in a bold, black, sans-serif font, followed by 'The tidal saw mills at Winslowport Creek between Bath and Piquette, ME produced millions of board feet of lumber annually. Eight were on the dam in the foreground below. Two more mills beyond the island at the end of the dam joined us.' in a smaller, black, sans-serif font. At the very bottom, there is a line of text: 'TIDE MILL INSTITUTE' in a bold, black, sans-serif font, followed by 'conferences • newsletters • lectures • site visits • displays • research • advice' in a smaller, black, sans-serif font, and 'info@tidemillinstitute.org • www.tidemillinstitute.org • 207-746-4156' in a smaller, black, sans-serif font.

MAINE TIDE MILLS

Maine's coast offered many suitable locations for tide mills. As the crow flies, it's only 230 miles long, but if all its indentations and projections were stretched out in a straight line, it would extend some 3478 miles.

This map is our rough attempt to show the location of Maine's nearly 200 tide mill sites from Kittery to the St. Croix River. There were plenty more mills than that over the three centuries that Gulf of Maine tides powered the early industry of the state. Many of these sites saw multiple saw mills and grist mills: several at a time atop a single dam, layers of new ones built on old foundations wiped out by fires or worn out from years of use. Tide mills were once a significant part of Maine's industrial past and, involved many people as investors, millwrights and millers, workers, suppliers and customers.

The original of this map is almost eight feet in length. Although it's hard to read shrunk to fit on this page, what's obvious is that this was once a very industrial coast. But steam and electricity changed that.

It's interesting to see how the mills clustered in certain areas. One reason for that is physical of course -- topography, the shape of the land. Look closely and you'll see that few were built along either the southern coast where long sandy beaches lay between granite headlands, or "downeast" where the bold foreshore offered few suitable locations for tide mills.

The greatest number was in the sixty mile wide lower midcoast, Portland to the Penobscot River, where nearly seventy of them operated, making it the greatest cluster of tide mills in the country.

Black and white map pages from DeLorme's *The Maine Atlas and Gazetteer*.



(A Very Personal Report)

RENNES COLLOQUIUM: TIDAL ENERGY - YESTERDAY, TODAY AND TOMORROW

Last November I was invited to participate as a member of the scientific commission of an international tidal energy colloquium being organized by L'Ecole Nationale Supérieure d'Architecture de Bretagne in Rennes, France. The person who contacted me was Claudia Silveira, who is associated with the Eco Museu Municipal do Seixal in Portugal, one of whose primary missions is the restoration and operation of a historic tide mill there. An old friend of TIDE MILL INSTITUTE she has spoken at one of our gatherings. Naturally, I jumped at the chance.

More than thirty proposals in both French and English were forwarded for review. I read slowly through those in French to get a rough idea of what they were about and then used Google Translator before commenting. Those of us reviewing papers were invited to submit proposals, so I offered to talk about Maine tide mills.

At a dinner the night before the conference, I sat at the English-speaking end of the table between Colin Rynne and Damian Goodburn, scholars from Ireland and England respectively, who argued intensely yet most collegially about details of medieval post and beam joinery. I must say that for much of the evening I felt rather out of my league academically as well as linguistically.

About a hundred people attended the three day gathering in June. For two long days speakers from France, England, Ireland, Germany, the Netherlands, Portugal, Spain, Brazil and the US shared a wealth of molinological information. Topics ranged from historical to future tidal projects. A few examples of the historical coverage - the oldest French tide mill yet discovered, early sugar mills in the Amazon estuary, a tide mill under a church, medieval mills in Ireland, an Anglo Saxon era mill on the Thames, horsepower studies of traditional tide mills and (of course) tide mills in Maine. Modern topics included tidal lagoons as a developing technology, long-range planning for tidal power and the impact of tidal barrages on species and habitat.

Because I'd read and translated the proposals which had been offered, I was pretty well able to understand those presented in French; but because my command of the language is at a schoolboy level, I missed much of the animated group discussions. Talking afterwards one-on-one with many speakers, however, cleared up much of what I had missed.

This conference was also a chance for me to renew old friendships, as three of the other speakers had presented at TMI's gatherings in the past: Claudia Silveira from Portugal, David Plunkett from the UK and Scott Anderson who had worked on tide mills for the Amazon region. Other warm connections were made, especially with Tarcis Van Berge Henegouwen, secretary of TIMS (The International Molinological Society), Colette Veron, vice president of La Federation Des Moulins de France and Vincent Bernard, who spoke about his experience dating what may be the oldest tide mill in France and early technological connections between Britain and Brittany. We are fortunate that Vincent will present his findings at our conference in October!

On the final day of the event participants traveled to the mouth of the Rance River for a fascinating tour of the famous tidal station whose twenty four bulb generators each produce ten Megawatts of electricity.

Afterwards, we were treated to luncheon on a Rance cruise vessel and a three-hour river cruise to view a number of traditional tide mills and the beautiful scenery along the river.

As if all this weren't enough, on the way back to Rennes our bus stopped at two tide mill sites. One, the Moulin a mare du Prat, was built in the 15th century. It ceased operations in the 1920's but is now restored and operating. At Beauchet, the other site, a tide mill existed by 1542. Built entirely of wood, it burned and was replaced by a stone building in 1882 and operated into the 1960's. Unfortunately someone has bought the water privileges to the area and refuses to allow the mill to utilize *his* water!

It was an exciting privilege to have represented TIDE MILL INSTITUTE at such a significant affair!

BUD WARREN

FIELD TRIP TO LA RANCE



Collegial interaction before the bus arrived: TARCIS VAN BERGE HENEGOUWEN (L) Secretary of TIMS (The International Molinological Society) chats with HARTMUT WITTENBERG from Germany.



We met our guides before descending into the dam.



Another model offered a conceptual view of the operation



A full-size model of one of the facility's twenty four bulb turbines formed the background of the exhibit area.



Our guide shared a photograph of Charles de Gaulle cutting the ribbon on the day that La Rance began operating in 1966.



A wide-angle view of the upstream side of the dam.



A closer view of the upstream side of the dam.

The downstream face of the dam.
The tide had begun to ebb . . .



. . . and eddies were beginning to form.





After our tour of the power station, we boarded *Chateaubriand* for a cruise on the River Rance.

RIVER CRUISE ON THE RANCE



(L) Our group of about forty people had the whole main deck to ourselves.



(R) Claudia Silveira (Portugal), Harmut Wittenberg (Germany), Tarcis van Berge Henegouwen (Netherlands) and Loic Menenteau (France) await luncheon.



Luncheon was delicious as was the chance to relax with new acquaintances while cruising along the historic river to view old tide mill sites, churches and lovely country homes



TWO EARLY TIDE MILLS

After the boat trip, we visited two traditional tide mills, one a restoration and once again active, the other in limbo. THE MOULIN A MAREE DU PRAT probably originated in the 16th

century. I recorded my first view of the mill in the photo to the right and saw immediately why it had been called the "Meadow Mill, because of the wide marsh behind the dam



The mill struggled to operate until the 1920's and deteriorated. About 2001 restoration began, committed volunteers worked miracles and today the mill operates. The following website tells the story:

http://www.microsofttranslator.com/bv.aspx?ref=SERP&br=ro&mkt=enUS&dl=en&lp=FR_EN&a=http%3a%2f%2fflavicomtesurance.free.fr%2fpratfra2.html



MOULIN DE BEAUCHET – Our final stop was at this site where a tide mill existed before 1542. In 1882 it was rebuilt after a fire and in the early 20th century, it was converted into a flour mill. Its millwheels were replaced by a turbine before 1930 and it was electrified in 1962. Milling activity ceased in 1981. A group is seeking to restore and operate the mill, but water rights have been acquired for the purpose of salmon farming by another person who refuses to allow his water to be used for milling by others.



<http://static.panoramio.com/photos/large/74003578.jpg>



<http://l2films.fr/wp-content/uploads/2015/09/1.-Vallée-de-la-Rance-Le-Moulin-du-Beauchet-1024x576.jpg>