

# the TIDE MILL TIMES

NO. 10 FEBRUARY 2015

CONFERENCE ISSUE

TIDE MILL INSTITUTE - Committed to Sustainable Heritage

[www.tidemillinstitute.org](http://www.tidemillinstitute.org)



## TMI's 10th Conference at York . . .



Nearly 70 people gathered last November in York Maine for a two-day celebration of TIDE MILL INSTITUTE's first decade of service to the tide mill heritage community. The meeting rooms at the Museums of Old York and the local Congregational Church were crowded for presentations by molinological newcomers, experienced tide mill researchers, illustrators, installers and even a real tide-miller. As if this weren't enough, they listened to a state representative involved in writing legislation about tidal energy, explored the history of tide mills on the York River and braved chilling cold for a field trip to the nearby early Barrell Pond tide mill site. **READ MORE INSIDE!**

**THE WORLD'S YOUNGEST TIDE MILL AFICONADO?** Young Owen Cofelice attended the conference to hear his mom share her story of finding an old tide mill in Seabrook, NH. (John Goff photo)

## . . . and Beverly Mass will host the 11<sup>th</sup> !



We're happy to be able to announce that next fall's tide mill conference will be held November 6<sup>th</sup> and 7<sup>th</sup> at a doubly-historic location in Beverly Massachusetts. CUMMINGS CENTER is right across the street from the site of a 17<sup>th</sup> century tide mill and highly visible remains of the 19<sup>th</sup> century Friend tide mill profiled in our last issue. Built in 1904, the CENTER is itself of historic importance as one of the most significant early reinforced concrete industrial buildings in America, home for years of the famous United Shoe Machinery works. Yes, that's a tide mill grind stone at its corner!

As always, the goal for this conference will be to offer a wide variety of presentations to give established researchers and newcomers the opportunity to share stories of their work. We'll also focus on modern tide mill activity and take a guided field trip to the remains of Beverly's nearby historic Friend tide mill.

Photo: CUMMINGS CENTER

***"SAVE THE DATE"***

# Conference Presentations

What follows are descriptions and images from talks at this year's event, arranged in the order they were presented. We hope these pages will give participants and others a sense of the rich breadth and depth of a TMI conference and may make the latter want to attend future events. Should you wish to contact any of the speakers, email us at [info@tidemillinstitute.org](mailto:info@tidemillinstitute.org), and we will let you know how to get in touch with them.

## MILL IN THE MARSH: SEABROOK NEW HAMPSHIRE – Jessica Cofelice

About 1640, blacksmith Andrew Greeley built a tidal grist mill in Salisbury, then part of the Massachusetts Bay Colony, later Seabrook, New Hampshire. About ten years afterward, he added a sawmill. Though registered (in the 1980's?) the site was not investigated again until last summer by Cofelice, a fellow archaeologist, and Bud Warren. She shared how she pinpointed its location, and led the audience in her search for the remains of the dam that stretched, partly anchored by a ledge, for 1200 feet across the stream. She then described details of the extensive remains, including pieces of two broken mill stones. A proposed interpretation was presented, and a lively question and answer period followed.



## DISCOVERING A TIDE MILL IN SALISBURY MASS – Ronald Klodeski

Given an old map showing a grist mill just across the Merrimac River from his home town of Newburyport, Ron began researching, but found little about the mill's history, so he visited the site with a friend by kayak and found good evidence of an early mill whose features are similar to many other small coastal New England tide mills. Remains recorded included evidence of a dam with two lines of vertical sheathing, structural mill timbers and flooring and a set of unusual bulkheads. Particularly interesting were a millstone and a granite slab with a hole, perhaps a shaft bearing for a horizontal wheel.



## KITTERY'S THOMPSON TIDE MILL AND LAND TRUST – *John Viele*

A key player with the Kittery Land Trust since 1991 when it gained a conservation easement for the property, John focused on preserving the character and natural habitat of the site, and only recently became interested in the old mill which dated from about 1694 and may have operated until about 1812. Typical features that remain include a double line of stones marking the outer line of the dam, a section of mudsill with vertical sheathing and an impressive set of millstones



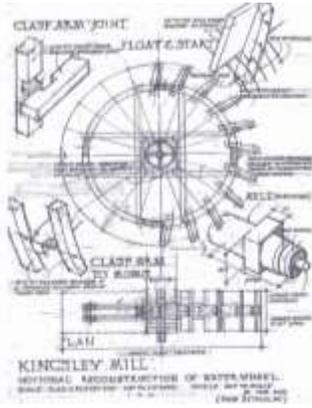
## CHASING MAINE'S TIDE MILLS – *Bud Warren*

Bud showed how maps, deeds, local and regional histories, account books and ledgers have been essential first steps in the search for his elusive quarry, the tide mill. Google Earth is a strong ally. But he says face to face confrontation and a good site plan are invaluable, for “Every mill is different, yet every mill is the same” Dams, bed timbers and cribbing, vertical sheathing, posts in the mud and occasional machine parts tell the shape of a site. But the real story of a mill is in the cultural memory of a locale – its people, their historical societies and their archives.



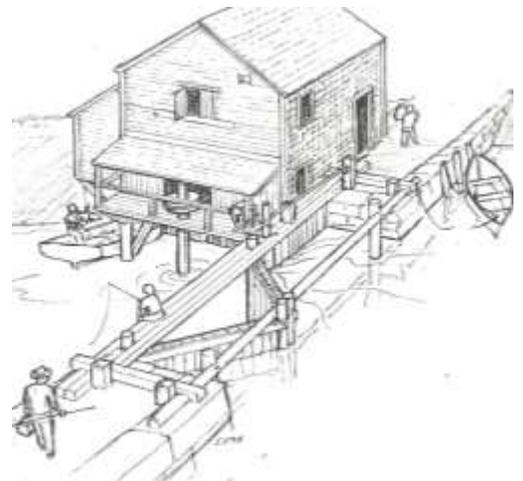
## COUNTING THE UK'S TIDE MILLS – *David Plunkett*

After describing how he worked with fellow mill enthusiasts in his native Hampshire to build a replica wooden mill wheel, David shared the history of previous methods of counting and documenting tide mills in England, Wales, Scotland and Northern Ireland and how he keeps track of them. Known across Europe for his passion about them, he has now recorded now recorded about 230 historic UK tide mills.

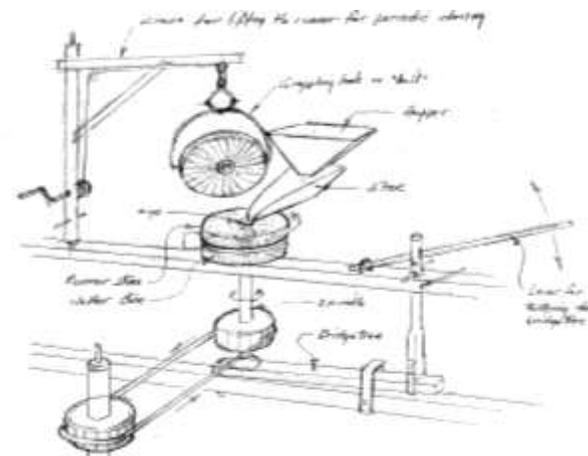


Schedule	Sites - LONDON	Content - Mill notes
L.Nas		
L01 / 30	Barking Creek, Abbey Mill	Very early history - 680 to 1922
L02 / 31	West Ham Bow Creek	Four Mills (below 3 Mills, west bank Middx)
L03 / 32	West Ham Bow Creek	House Mill (Three Mills)
L04 / 33	West Ham Bow Creek	Clock Mill (Three Mills)
L05	West Ham Charneca River	Abbey Mill, Wigen Mill 11C or Honerades Mill
L06 / 34	West Ham River Lea	Pudding Mill = 2 more. (St Thomas' Mill or Fotes M
L07	City Mill River	City Mills or (Spitnam Mill)
L08	Waterworks River, Stratford	Waterworks Mill (19°C) + (Snyes 15C or Slippers
L09 / 35	West Ham River Lea	Lanterns + 1 more. (Old Foot site)
L10 / 36	Hackney Marsh - see -	Temple Mills - ? check ?
L11 / 37	Wapping	Croft Mills, owned by Holy Trinity Priory (13-19 <sup>th</sup> )
L12	St Katharine's Priory east	Land & Mill replacement for older Tower site lost
L13	Tower of London	East Moat St Katharine's - lost due to Tower expansi
L14	Tower of London	West Moat + 1 more (via Traitors Gate, water pumpin
L15 / 38	London Bridge (N)	Between N arches mills, 2 or 3 corn mills + water pu
L16 / 39	London Bridge (S)	Between S arches pumping wheels & earlier corn mi
L17	Blackfriars	Brokers Wharf - not confirmed site
L18	Blackfriars (Upper Thames St)	Queenshe Barge Mill. Floating mill in 18 <sup>th</sup> C.
L19	Temple (River Fleet)	Baywards Castle Mill - up to early 14 <sup>th</sup> C.
L20	Temple (River Fleet)	Bridewell Bridge Mill - single record only
L21	Carmelite Priory	The Mill ? - not confirmed site
L22	Temple, The Strand	Milford Lane Mill (may not have been tidal by late 1
L23 / 40	Westminster	Abbey Mill. (R. Tyburn) - up to mid 17thC
L24 / 41	Westminster	Abbey's Mill. (R. Tyburn) - now recorded as Millin
L25	Chelsea	Chelsea Meadows Mill - from early 18 <sup>th</sup> C. to pump
L26	Wandsworth	Lower or Caneaway Mill - mouth of Wandie River.
L27 / 42	Battersea	Nine Elms Mills - up to 1838
L28 / 43	Southwark (Bermondsey Abbey)	Wildflete Mills - near Holland Rd up to 18 <sup>th</sup> C.
L29 / 44	Southwark	Bankside Mill - close to 'The Anchor PH'
L30 /	Southwark	St Mary Overes' Dock - 15 <sup>th</sup> C. record only
L31 / 45	Southwark	Bartlebridge Mill, (Abbess Mill, near Tooley Street)
L32 / 46	Southwark	Horsey Down Mill - (St Johns Mill, 13-19 <sup>th</sup> C)
L33	Bermondsey	Savory Mill. (Neckinger Stream - St Savar's Dock
L34	Bermondsey	Neckinger Mill. (Neckinger Stream - Bermondsey
L35 / 46	Bermondsey, or Rotherhithe	Hozers Mill - (near 'The Angel PH)
L36 / 47	Rotherhithe	Kings Mill - (gunpowder mills in 16 <sup>th</sup> C. lost in 19 <sup>th</sup>
L37 / 48	Deptford	Old Flood Mill. (R. Ravensbourne) - ancient site.
L38 / 49	Deptford	Brook Mills. (R. Ravensbourne) - (on tidal limits)
L39 /	Deptford	St Pauls Mill - single record only to date.
L40 / 50	Deptford	? Lambs Mill - not confirmed
L41	West Greenwich - by archaeology	MOLAS dig site 2008. Ref: S Davis CA Nov. 2009.

## VISUALIZING FOUR MAINE TIDE MILLS – *Samuel F. Manning*



Using four Maine tide mills to illustrate his methods, Sam Manning, one of America's foremost maritime/industrial illustrators, shared the approach that has driven his work for decades: historical accuracy, clear details and human engagement,. Here are three of his distinctive images based on an 1883 photo of the little Deer Isle Torrey grist mill that exhibit those qualities.



## ERNEST HASKELL'S PHIPPSBURG TIDE MILL ETCHINGS – *John Goff*

Ernest Haskell trained in Paris, knew and worked with James Whistler and became a master of the art of etching. Some of his finest work featured landscapes and tide mills of the coastal town of Phippsburg, Maine. A historical architect, John Goff presented a lively, illustrated biography of Haskell, and using several of his images of landscapes and buildings showing how he practiced his craft and achieved great accuracy in picturing tide mills.



### REALITIES OF TIDAL POWER TODAY -

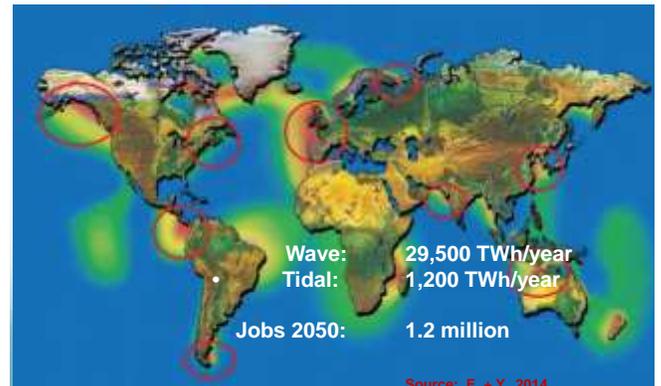
#### *Roger Bason*

In his presentation titled “Ocean Energy: Infrastructure Design with Natural Systems,” Roger Bason, founder of Natural Current Energy Group, looked broadly at different types of ocean energy, and explored some of the different technologies being utilized to capture it. In addition to the more familiar tidal, wave and current approaches, he described the exciting concept of ocean reefs and development of bio rock structures. He particularly recommended installation of cross-flow turbines, timely filing of application permits for localized utilities and limiting use to local sources.

### PUBLIC POLICY AND TIDAL ENERGY –

*Deane Rykerson* A member of the Maine House of Representative’s Energy, Utilities and Technology Committee, Rykerson explained the patterns of energy proposals presented to the PUC and explained its ambitious goal to have renewable 40% of the state’s electrical generation by 2017. He pointed out the permitting challenges to barrage or impoundment tidal projects, the latter being characteristic of historical tide mills.

### Global Tidal Energy



TIDAL- simple in concept-complex in implementation due to scale and environmental impacts

## MAINE'S FIRST TIDE MILL: 1634 – *Emerson Baker*

Historian and archaeologist “Tad” Baker shared the history of early tide mills on the York River, indicating the poor performance of the first, a saw mill on “Old Mill Creek,” because of poor construction of the dam and breakdowns of the machinery. He explained the cultural and economic context of tidal and other saw mills in the developing community through the social and family relationships among their owners and operators. Pointing out the many mills in the region, he used deeds, maps and artifact images from a range of York area and other sites, showing how they were constructed and worked. For the most part, they were profitable for those involved.



## YORK'S BIGGEST MILLPOND: THE BARRELL MILL – *Robert Gordon*

Bob Gordon, who lives at the head of the millpond, discussed how tide mill lumbering in the region was bountiful until near the end of the 18th century, but leveled off as the forests were stripped. Jonathan Sayward Barrell's sawmill failed in 1810, and over time the dam deteriorated. It was repaired, and a couple of ice pond ventures were attempted there in the 1870's and 1880's. Near the end of the century, a resort development was begun on the fringes of the pond, and over the next quarter century or so the dam became a path to the local golf course. Thirty years still later, the suspension bridge was erected. In 1946 a water park plan was proposed but dropped, and the property was finally donated to the York Historical Society.

After his presentation, Gordon led a field trip to the site.



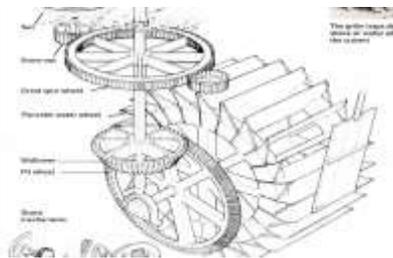
## ILLUSTRATING PORTUGAL'S CORROIOS TIDE MILL- *Xavier Pita*

Xavier Pita described his master's thesis in scientific illustration, a project to illustrate the 611 year old Corroios tide mill. Belonging to the town council in Seixal, Portugal, which supervised its restoration, this working mill is also integrated into the town's municipal Ecomuseum, home base of Claudia Silveira, a former conference speaker and long term TMI friend. Pita's task was to develop illustrations for infographic posters and publications. His research for the project included contacts with staff, milling and equipment specialists, visits to other mills and many planning meetings to develop thematic units. His final product included introductory information, illustrations of the pond, dam and building, its machinery, how it all worked, the tides and how they powered the installation. An unexpected outcome was illustrating the varied wildlife that inhabits the area around the mill. To achieve his spectacular results, Pita used a number of 2D and 3D digital programs, including Photoshop, Cinema4D, and Adobe illustrator and design.



## OPERATING THE UK'S 400 YEAR OLD ELING TIDE MILL – *David Plunkett*

The millwright builds the mill and works on the machinery. The miller grinds the grain. David has done both jobs at this popular working grist mill in Hampshire and shared his experiences to make sure that the 400 Eling tidal grist mill runs smoothly. He told the history of the old building, explained how the machinery worked, and how he and a team of volunteers help him maintain it and respond when things don't go well. Some photos showed subtidal inspection, new wallower wedges and even installing a pit wheel!



**HERE AND THERE AT THE CONFERENCE** (Photos by John Goff)



THE OVERSEAS CONTINGENT – DAVIS PLUNKETT AND XAVIER PITA



“SPOOMERS”- Ex-President Dave Haines(c), Vice President Ivan Lufriu (r).  
Marlene Lufriu holding *The Young Millwright and Miller’s Guild* by Isaac Evans



CANADIAN KERR CANNING SHOOTING PICS  
FOR OUR NORTHERN NEIGHBORS



BOB GORDON LEADING THE CHILLY FIELD TRIP TO BARRELL MILL POND



CELEBRATING TWO BIRTHDAYS – President Bud and TMI Secretary Todd Griset  
sing “Happy Birthday” to David Plunkett, who returns the favor by singing  
It right back to TIDE MILL INSTITUTE. (He’s older than TMI!)



SPECIAL THANKS IS ALWAYS DUE TO BOB GOODWIN, who  
manages our busy Registration Table with grace and finesse.

**TMI THANKS THESE SPEAKERS AT THE 2014 CONFERENCE** (All but one photo by John Goff)



**ROGER BASON**



**Rep. DEANE RYKERSON**



**JESSE COFELICE**



**RON KLODENSKI**



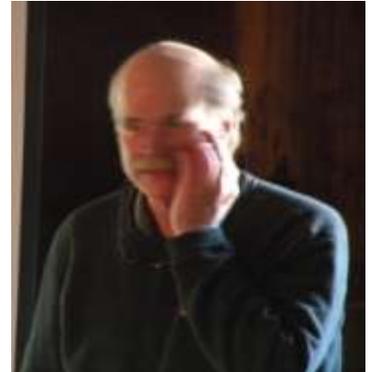
**TAD BAKER**



**BOB GORDON**



**JOEL LEFEVER**



**JOHN VEILE**



**TODD GRISET**



**FRANK HELLER**



**DOUG BUTLER**



**BUD WARREN**



**XAVIER PITA**



**JOHN GOFF**



**SAM MANNING**



**DAVID PLUNKETT**

## CONFERENCE SPEAKERS (continued)

### WELCOME – *Joel Lefever* –(picture on previous page]

Director of the Museums of Old York, Joel Lefever warmly welcomed us to his campus, sharing the story and those interested in itission of his organization. It was his immediate interest in the history of York’s old tide mills that led him to invite us to hold the conference at his facility. TMI is honored to have had that opportunity. A BIG THANK YOU, to Joel and his staff!



### SPOOM – *David Haines & Ivan Lufriu* [John Goff photos]

Dave and Ivan, retiring President and current Vice President of SPOOM (the Society for Preservation of Old Mills) discussed membership and mission challenges faced by long-established organizations. Responding to some of the educational and public programs described earlier by Roger Bason, he stressed the importance of historically-focused groups turged groups, young and old, to find new ways to tell their story and involve younger people. Ivan seconded that emphasis and the importance of membership programs.

### PERKINS MILL UPDATE – *Doug Butler* [picture on previous page]

Project manager for Kennebunkport Conservation Trust’s proposal to recreate the 1749 Perkins mill, Doug reported that a concerted effort by nearby residents have presented serious roadblocks to KCT’s application for Planning Board approval for them to begin work on this historic project. We will keep you appraised of progress in this important matter.

## WHAT DOES TMI DO? –*and an invitation*

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Like most non-profits with no staff, TIDE MILL INSTITUTE operates on the good will and free time of its leadership and interested members. As we do not yet have a “membership” program, we consider all of you who get our newsletters in that category. Thus, as “members,” YOU are an important part of our effort to explore and share the story of tide mill heritage anywhere in the world. Feel free to jump in anywhere along the line – sharing tide mill tidbits, asking questions, or making suggestions. It’s ALL important! In fact it’s all important! Feel free to get in touch with us at [info@tidemillinstitute.org](mailto:info@tidemillinstitute.org) about anything “tide millish.” Several people did last summer and became speakers at the November conference, and others have since then. A number of you responded to our survey about the conference. Thank you.

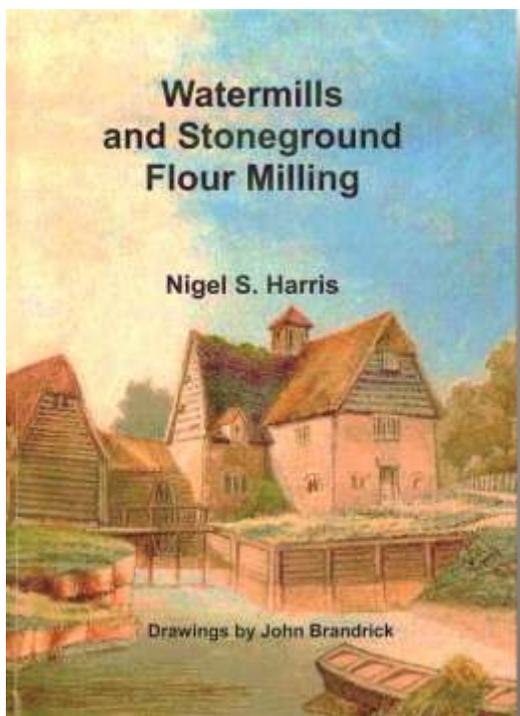
As you know by now, our biggest public efforts for a decade have been our conference and producing this newsletter. But much goes on behind the scenes. We’ve incorporated, and just since November’s conference have opened a bank account and are in the process of producing an application for IRS 501(c)3 status. We’re in discussion with someone who will help us make our website more attractive and user-friendly. Several new people have joined what up to now has been an informal “Board of Directors.” We’re trying to acquire a significant tide mill archive, and are exploring ways to create an appropriate public educational platform. Several of us have led tours to tide mill sites and given talks at various public venues. And of course, the mail is busy - email and otherwise. Just since the conference, people have offered information about account books of several early tide mills (these are woefully rare!); someone researching the working structure of windmills has written to us about details of wooden gears in mills; our contact in Florida has added one or two tide mill sites to his growing list there; another has asked for details about a flutter wheel; tide mill folks in Tasmania and Australia (yes, all the way; from down under!) are sharing their information; contact has been made with a historian in Basra, Iraq about its ancient tide mill from about 1000 AD. TIDE MILL INSTITUTE is becoming the place to go for information about tide mills! All of this activity is being recorded and added to a slowly-growing data base. It’s an exciting time; we invite you to jump in!

EDITOR'S NOTE: Over the last few years, *TIDE MILL TIMES* has worked hard to give its readers a sense of the basic elements of tide mills, their dams, gates, and other structural features. Talking with others interested in the subject, we've often said that what goes on inside a tide mill is essentially the same as what goes on in fresh water mills where the water always goes in the same direction. Once the shaft is turning, there's essentially no difference between them; milling is milling. Both types of mills grind grain, saw lumber, pound cloth and do many other tasks. The following review by John Goff (to be published soon in SPOOM's *OLD MILL NEWS*) gives us a chance to begin exploring the *process* of traditional milling. In future issues, we hope to continue by describing those processes that were practiced in both tide mills and fresh water mills. Hopefully, we'll all learn something in the process. This review is somewhat of a "teaser" of what may be ahead in future issues.

At the end of the review's second paragraph you'll note links to two websites. The first gives you a look at the reviewed book. The second takes you to the illustrator's website, which explores many traditional UK mills, offering a wealth of illustrations and computer-produced images that explain their inner workings. Take time to browse them. You won't be disappointed!

## A BOOK REVIEW:

# Watermills and Stoneground Flour Milling



In mid-November, 2014, David Plunkett of the enchanting and educational Eling Tide Mill in England met me in Maine at the Tide Mill Institute's 10<sup>th</sup> annual tide mills conference. There he showed me a few new British milling publications. The most impressive was the 211 page, 9 x 12 inch hardbound book called Watermills and Stoneground Flour Milling.

There's an old saying about "Don't judge a book by its cover" but in the case of the new Watermills book, both are equally charming, informative, and colorful. The cover of Nigel Harris's new book shows a wonderful old color view of the Mapledurham Watermill of Oxfordshire (on the Thames River), grouped around a vertical waterwheel, with a wooden punt or rowboat in the foreground. The book itself presents an extraordinary explosion of wonderful color photos illustrating subjects as diverse as waterwheel & millstone representations on 13<sup>th</sup> century pewter coinage, boat mills, millstones, historic watermills, miller's wagons, mill gearing and all sorts of related molinological marvels. The color illustrations and photos are complemented by a high number of superb black & white technical views. These include architectural and engineering details, diagrams, sections, perspectives and

axonometric<sup>1</sup> drawings all rendered to make the most mysterious mill subjects better understood. The text was just produced by Nigel S. Harris, while the drawings were prepared by the talented engineering draftsman John Brandrick. Harris maintains the website [www.watermills.info](http://www.watermills.info), while more of Brandrick's fine work, developed over a 50 year career, can be seen at [www.milldrawings.com](http://www.milldrawings.com). All of the drawings in this extraordinary volume

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<sup>1</sup> axonometric – a term used by engineers and architects referring to a type of visual projection for creating a pictorial drawing of an object. This technique is often used in television programs to show objects in a 3-D rotatable form around an axis. *Wikipedia* has a good definition and description of the process.

are completely new and previously unpublished as are most of the photographs.

Nigel Harris, a member of the HMG (Hampshire Mill Group) and Mills Section of SPAB (The Society for the Preservation of Ancient Buildings) plus most recently MRG (Mills Research Group) in England, was professionally trained as a scientist. Between 2010 and 2014 he developed new interests in old mill history and operations after finding that one of his ancestors, David Harris, was a late-18<sup>th</sup> century owner and operator of a water-powered gristmill in picturesque Surrey. Frustrated by realizing how much old milling knowledge had been lost over the centuries, he set about to answer such questions as: What did various cereal grains look like, when they first entered the mill? What were the various pieces of water-powered machines and equipment used in the traditional 17<sup>th</sup>, 18<sup>th</sup> or 19<sup>th</sup> century British watermill? What did they look like, and how did they function? When David Harris was owner and miller at his family's Gomshall Mill in the U.K., what were his daily concerns and duties?

By facing the unknown and the mysterious directly, and by applying systematic new study and logic to understand how mills evolved long ago, Nigel Harris has achieved a thorough understanding of the processes and problems in the old water-powered mills. Harris's Watermills book is a true treasure and a major accomplishment—a visual and verbal walk through the many parts of old water-

powered gristmills---to see how many were commonly (and some uncommonly) designed and operated.

Harris's new book is an extremely rich and finely structured resource that covers such topics as traditional waterwheels, gearing, penstocks, water flow, meal, bran & flour production---and more. This volume receives an A+ rating in all respects---and is one that will benefit all 21<sup>st</sup> century mill buffs. It is a "Must Read" new molinological reference and one that would make David Harris profoundly proud. We must also give thanks and credit to John Bedington (miller of Charlecote Watermill for 34 years) who proof read the book draft and made many constructive comments. To obtain a single volume or multiple copies of this book, consult *Amazon.co.uk*, *ebay.co.uk*, or the Mills Archive Trust in the United Kingdom. Research is being done in

2015 to determine the feasibility of making new American-printed copies to reduce shipping costs to mill experts, enthusiasts, schools and libraries in the United States, Mexico and Canada.

*John Goff, a frequent contributor to the TIDE MILL TIMES, is its former editor and a co-founder of TIDE MILL INSTITUTE as well as a restoration architect and historian.*

## AVAILABLE FROM TMI

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Two discs are available for your personal study of tide mills! **T& TIDE MILL TIMES** – includes five years of all ten editions packed with information about mills around the world! Also available is **WHAT IS A TIDE MILL?** a spooling power point program illustrating the basic elements of tide mills. Great for explaining what tide mills are and how they work.

\$10 each or both for \$15 postage paid. Send remittance to TIDE MILL INSTITUTE – 5 Berkeley Lane – Topsham ME 04086-6119.

