

TIDEMILL RESEARCH WITHIN THE CHESAPEAKE BAY, USA  
(revised October 1987)

David Plunkett

Interim results of an ongoing survey.

My interest in English tidesmills dates back to 1976, with my involvement in the restoration of Eling Tide Mill, near Southampton, England, and subsequent working knowledge of their operation and historical development.

In April 1986, I left England for a two week holiday to visit members of my family in Maryland, USA. Prior to my departure, I wrote to a number of American mill enthusiasts, seeking information and advice about the recorded tidal powered mills of the Chesapeake Bay. Up to that time, published information was limited to items from Old Mill News (SPOOM). These were:

1. from OMN April 1979, and items from the late Peveril Meigs, there may be 300 sites from Canada to Georgia. The central part of this region, from Delaware Bay to Southern Virginia (encompassing Chesapeake Bay) was believed to contain 23 recorded tidesmills.
2. "The old tidesmill at Poplar Grove", by Jon Sass, 1981.

Chesapeake Bay is a very large body of tidal water, reaching from Delaware State in the north to its Virginia State opening to the Atlantic Ocean, 200 miles to the south.

The mean width varies widely from 5 to 25 miles. Substantial rivers enter from the west, the northern of which is the Potomac, which also divides western Maryland from Virginia. Further south the main rivers are the Rappahanock, York and James. These extensive river and coastal waterway areas were initially colonised by English settlers, in the 17th century.

The tidal range of Chesapeake Bay is very small; only 1 to 5 feet (300 to 1500 m). The smaller range is in the headwaters of the rivers and the northern areas of the bay. These are areas which would not normally be associated with tidal power sites, such as St. Michaels, Talbot Co, Maryland, with a mean high water of 1.2 feet (360 mm), or Annapolis, Anne Arundel Co, Maryland, with a mean high water of 0.9 feet (270 mm).

Extreme variation to astronomical predictions may register +4' to -4' (+/-1220 mm). Maps and charts used in current research are in the scales of 1:80 000 or 1:40 000, with some larger scale historical, county and street maps where to hand.

Chesapeake Bay, April 1986

The Library of Congress was one of my first calls to seek out existing publications and search through the Prints and Photographs Library for tide mill information for the USA generally. Only northern Atlantic seaboard tide mills were indexed, with only two full surveys (for Lefferts, NY, and the Hodgekinsons Mill, Mass.) in the complete library. Rather a disappointment.

An appointment with Dr Sharrer at the Museum of American Life brought to light an extract from American Farmer, Vol.7, No.29 (1825), describing the new construction of a tide mill on the Miles River, near St. Michaels in eastern Maryland. Access was also provided to search the early records of the Patent Office, via the Microfilm Library, for indexed tide mill patents. It was noted that all patents prior to 1836 have been lost. The patent in the name of Captain Robert Speden, of Talbot County, has not survived. Three patents, registered between 1846 and 1868 were recorded, concerning developments of the waterwheel for tide mill applications.

Information and assistance from Ted Hazen and other SPOOM members resulted in general data of the regions mills, but no additional Chesapeake Bay sites.

Following a trip to Mathews County and the Virginia peninsula with Ted Hazen, a half day stop was made at the Colonial Williamsburg Foundation Central Library to seek further historical tide mill information. This provided useful data over a wide range of sources. An earlier meeting with Milton Murray II at Mathews Library provided useful though conflicting information on the names and locations of some of the County tide mill sites. Although Poplar Grove was visited, no contact was made with the owner.

After the visit to Williamsburg and the location of better maps and charts, a definite distribution pattern of tide mill sites was appearing. The principal concentration was around the Virginia peninsula, with a grouping in Mathews County. The tide mills stated in the 18th century, from the Virginia Gazette, are largely sited on the James or the York rivers. Only one Maryland site was positively recorded at this stage, although more were found as time progressed. But it was then time to return to England.

The map of Chesapeake Bay indicates the Counties, and the recorded tide mill sites. A full listing of sites, with brief notes, is also included.

Two examples of County information are given for Virginia State and Maryland State (revised up to mid 1987).

Virginia, Mathews County.

There may be historical evidence for up to ten tide mills in this County. Unfortunately only the mill at Poplar Grove survives to any degree, which luckily has been the subject of earlier research. The most widely published item, from Old Mill News 1981, is "The tide mill at Poplar Grove", by Jon Sass. There is also a local history item at Mathews Library, and unpublished works by Milton Murray II, of Mathews.

1. Poplar Grove - update

Mean high water, 2.5 feet (625 mm). Access is via road 14 south, and west on minor road 613, to Poplar Grove Acres. The mill is in the grounds of the house, on the east bank of the East River. The property changed ownership in early 1986, to a Bernadine Teague of Hampton, Va. The constructional details of this mill have been well described by Jon Sass, so I shall include only additional information.

The original 1774 mill on this site, by Samuel Williams, is believed to have differed only marginally from the present building. The existing mill is based on yet another rebuilding of c.1865, following the Civil War fire raising in 1863. The mill dam has almost disappeared in recent times, providing a private harbour for the surrounding property owners. The last miller was Mr M.B.Garnett, who was born at Poplar Grove in 1874, and was still living locally in 1957.

2. Wards, or Bohannon Mill.

Sited on the west side of the East River, opposite Williams Wharf. Access is via Bohannon and road 619. The original 19th century mill was constructed by an Issac D. Ward, who came from Baltimore. Edited data and a description was provided by Jon Sass, who also has a photograph of the mill prior to 1936.

No building dimensions are given, but it is stated to be "not as long as Poplar Grove", its near neighbour. Of timber frame construction in doweled white oak, over timber piled foundations, with a shingle roof. The waterwheel was all of timber, with a large shaft. The single pair of millstones, on a ground floor hurst frame, was for grinding maize only. The hurst frame was mounted on screw jacks, so as to realign easily after any movement. The internal gear was all in iron, via a Baltimore millwright or ironworks. The regular stone nut and gearing had a change over mechanism similar to that at Poplar Grove. The mill race was regulated by a gate on the river side of the waterwheel, operated by a

long lever and ropes. It operated an ebb and flow, but was stated to work longer on the incoming than the outgoing. No tidal working times stated, but from high tide, the sea needed to ebb one foot (300 mm) to allow the mill to work. It was last worked by Ike (Dwight) Ward, in the mid 1930's, before selling out to a firm for shucking oysters. Ike died in 1940.

3. Roane Point Mill

From evidence personally provided by Milton Murray in 1986, this mill is located on the south bank of the Pianatank River, within Warehouse Cove. An adjacent site, as recorded by Jon Sass, lies a mile or so to the east at Iron Point, but believed to be historically only a single site. Further investigation is required, to include Pond Point, to the west.

4. Tabbs Creek, or Ceniville Mill

Sited on the southern shore of Tabbs Creek, leading to Port Haywood, from the East River. Last working owner believed to be a Thomas Smith. No details of the mill or its operational dates. Access is via road 14 south, and right on 608 west. Further news states that timber piles survive at the mill site. Further historical and site investigation is required.

5. Retz, or Glebe Mill

From evidence provided by Milton Murray in 1986, this site, or sites, is located on the east bank of the East River, near Retz. Data from Jon Sass located a mill north of Retz, on land once owned by a Gabriel Hughes. Possibly a single tide mill site. Further investigation is required.

6. Other tide mills.

Two further sites are being investigated; in the south near Mobjack, and in the north within Hills Bay, adjacent to Gwynn Island.

Maryland: Talbot County

Historical evidence for tide mills in this state is very sparse. This is not surprising in view of the very small tidal range, and the State boundary within the Bay is a long way from the Atlantic. No published material on Maryland tide mills has been produced, other than local news and historical data. It is therefore surprising that a significant quantity of data is available for a single site in Talbot County.

1. St. Michaels, or Hambleton Mill

This site is identified from at least three sources as being two miles north of the town of St. Michaels, on the Miles River. The mill dam was across the mouth of Hambleton Cove, within the Martingham estate. Mean high water at this site is only 360 mm. There is reason to believe that this tide mill superseded an earlier mill on the Miles River. The sources are:

a) American Farmer, Vol.7, No.29, p.230.

b) Oyster beds map, of the early 20th century, at the Chesapeake Bay Maritime Museum, Navy Point, St Michaels. It clearly marks the site of: Tidemill, oyster bed, immediately outside the mouth of Hambleton Cove.

c) Maps of St Michaels District, c.1870 (Bicentennial Edition). This shows a Col. S. Hambleton as owning West Martingham, but no mill is marked on this land, although the mouth of Hambleton Cove appears to show a mill dam, almost complete. At the same period, a steam mill is marked, sited

on the N.W. side of St. Michaels Town. In the History of Talbot County, 1661 to 1861, the Martingham land is recorded as being purchased by a William Hambleton Jr, in 1780, from a James Bradock.

This tide mill appears to have had a very short life. It is currently masked on the western arm by a new hotel complex, The Harbour Towne Inn at Martingham. There is no evidence to support an earlier tide mill site within the harbour area of St. Michaels. This fact must be weighed against the greater use of the windmill in this region from the 17th to the 19th centuries, of which a few examples remain. Also, the town of St Michaels is understood to have been the first in eastern Maryland to have had a steam powered grist mill, which proved unreliable prior to c.1825.

This site was inspected in April 1986, and notes and photographs taken, but no visible mill remains were recorded. Further historical research may uncover more details of this tide mill, with the date and reason for its loss.

This series of previously unrecorded tide mill sites within Chesapeake Bay defies the logic of conventional tide mill technology, due to the small tidal range. A lot more has yet to be learnt about the millwrighting employed, the manual operation, the output and the market destination of the milled products.

#### Site Listings to October 1987

State of Virginia	Information - Site Notes
County: Mathews. Place: Mathews. Mill Name: Poplar Grove. Operating: c.1774 to 1912.	Mill survives! Restored in part by JS* Good historical data and published items by MM*, JS*. Visited by DP* & TH* in 1986. New owner listed 1986.
County: Mathews Place: Bohanon. Mill Name: Ward's. Operating: Mid 19C to c.1936.	Site; west side of East River, via road 619. Built by I.D.Ward. Good description and notes via JS*, also photograph.
County: Mathews. Place: Port Haywood. Mill Name: Smith's, or Ceniville. Operating: 19C to c.1910.	Site, east side of East River, south bank of Tabs Creek. Last owner or miller a Thomas Smith. MM* listed mill as "Ceniville". Some site remains (JS*).
County: Mathews. Place: Roane Point. Mill Name: (Warehouse Cove). Operating: (no data).	Site; south bank of Pianatank River. Stated by MM* to be historical site within Warehouse Cove. JS*; Iron Point. Not confirmed by DP*.
County: Mathews. Place: near Retz. Mill Name: (Glebe). Operating: (no data).	Site; stated by MM* to be on East River east bank. Or upper East River, on land owned in the 19C by Gabriel Hughes (JS*) Site not confirmed.
County: Gloucester. Place: Leon Point. Mill Name: (no data). Operating: (no data).	Site; stated by MM* to be on North River west bank, opposite Blackwater Creek. No further data. Not confirmed site.
County: Kent or (York). Place: (see notes). Mill Name: (no data). Operating: c.1771.	Historical site ... Va. Gazette, sale notice, Feb. 1771. Plantation of John Townes, 4 miles below Brick House Ferry. Site not confirmed by DP*.

<p>County: Gloucester.  Place: Tidemill.  Mill Name: (no data).  Operating: (no data).</p>	<p>Site recorded by map name place. Near Gloucester Point on York River, within northwest branch of Sarah Creek. No current further data.</p>
<p>County: York.  Place: Tabb.  Mill Name: Harwoods.  Operating: (no data).</p>	<p>Site at head of Poquoson River, below Route 17 bridge. May have latterly been a watermill. Mill Lane to east, site 1.5 miles up from Moore's Creek. Map, DP*.</p>
<p>County: York.  Place: (Russell's).  Mill Name: (no data).  Operating: (no data).</p>	<p>Site, upper Poquoson River, west bank of Moore's Creek, via Tidemill Road. Refs; York Co. Court Records, JS*. Maps confirm. Not confirmed by DP*.</p>
<p>County: York.  Place: Wormley Creek.  Mill Name: (no data).  Operating: (no data).</p>	<p>Site, Poquoson River, within Wormley Creek, via Old Wormley Creek Road. Now a public landing site, JS*. Maps, DP*. Not confirmed by DP*.</p>
<p>County: York.  Place: Lamb's Creek.  Mill Name: (Smith's).  Operating: (no data).</p>	<p>Site, south bank of Lamb's Creek, via Emmaus Church Road. Ref; York Co. Court Records (JS*), mill owner, surname of Smith, c.1900. Maps confirm, DP*.</p>
<p>County: Hampton.  Place: Hampton Lake.  Mill Name: Armisteads (1).  Operating: mid 18C - mid 19C.</p>	<p>Site, Back River, south west branch, 1 mile up Newmarket Creek adjacent the Armisteads Avenue. A redeveloped site. Supporting data; maps. JS* DP*.</p>
<p>County: Hampton.  Place: Tide Mill Gate.  Mill Name: Armisteads (2).  Operating: 19C to c.1900.</p>	<p>Site, Back River, south west branch, at mouth of Tide Mill Creek. Part remains. Historical data wanted. Good maps. Visited by TH*, DP* in 1986.</p>
<p>County: Hampton.  Place: East Hampton.  Mill Name: (Mill Creek).  Operating: (no data).</p>	<p>Site, mouth of James River, to Mill Creek. Causeway from Fort Monroe to Water Street. Visited by TH*, DP* in 1986. Good maps. Not confirmed.</p>
<p>County: Hampton.  Place: Hampton.  Mill Name: (Mill Point Park).  Operating: (no data).</p>	<p>Site, north bank of Hampton River, at Mill Point Park. Possible early windmill site. Visited by TH*, DP* in 1986. Not confirmed, DP*.</p>
<p>County: Newport News.  Place: (no data).  Mill Name: Young's.  Operating: (no data).</p>	<p>Site; name only recorded by JS*. No further data currently available. Not a confirmed site.</p>
<p>County: Newport News.  Place: Skiffes Creek.  Mill Name: (no data).  Operating: (no data).</p>	<p>Site, James River, at mouth of Skiffes Creek. Marked on map of 1827, but no further data. Not confirmed site, DP*.</p>
<p>County: Charles City.  Place: Tide Gate of Rocky Ridge.  Mill Name: (no data).  Operating: (no data).</p>	<p>Site, upper James River. Va. Gazette sale notice, 1769, "several hundred acres, but gate blown up". Not confirmed site, DP*.</p>

County: Prince George. Place: Chesterfield. Mill Name: (no data). Operating: (no data).	Site ref: R. Krumel, of Hopewell Va. stated, Chesterfield side of Appomatox River, opposite Western Manor. Old foundation visible, JS*. Not confirmed.
County: Surry. Place: Cabin Point. Mill Name: (no data). Operating: (c.1770).	Site, upper James River, within Chipoke Creek, or Upper Chippokes Creek. Sale notice in Va. Gazette - 3 pair stones, 2 saws, etc. Not confirmed, DP*.
County: Portsmouth. Place: Gosport. Mill Name: Myrtle Island. Operating: c.18C - 19C	Site, western branch of Elizabeth River, near Gilmerton. Two historical refs, via JS*. Dr Wiliam Tatems. Not confirmed DP*.
County: Westmorland. Place: Potomac Beach. Mill Name: (no data). Operating: (no data).	Site, adjacent George Washington's birthplace. Ref: (via JS*) Dwight Storke National Park Service, GWB. Not confirmed, DP*.
County: Westmorland. Place: Potomac Beach. Mill Name: (Roziers Creek). Operating: (no data).	Site, north west bank of Roziers Creek to Potomac River. Via JS*, historical data including land patent date of 1657. Not confirmed, DP*.

STATE OF MARYLAND

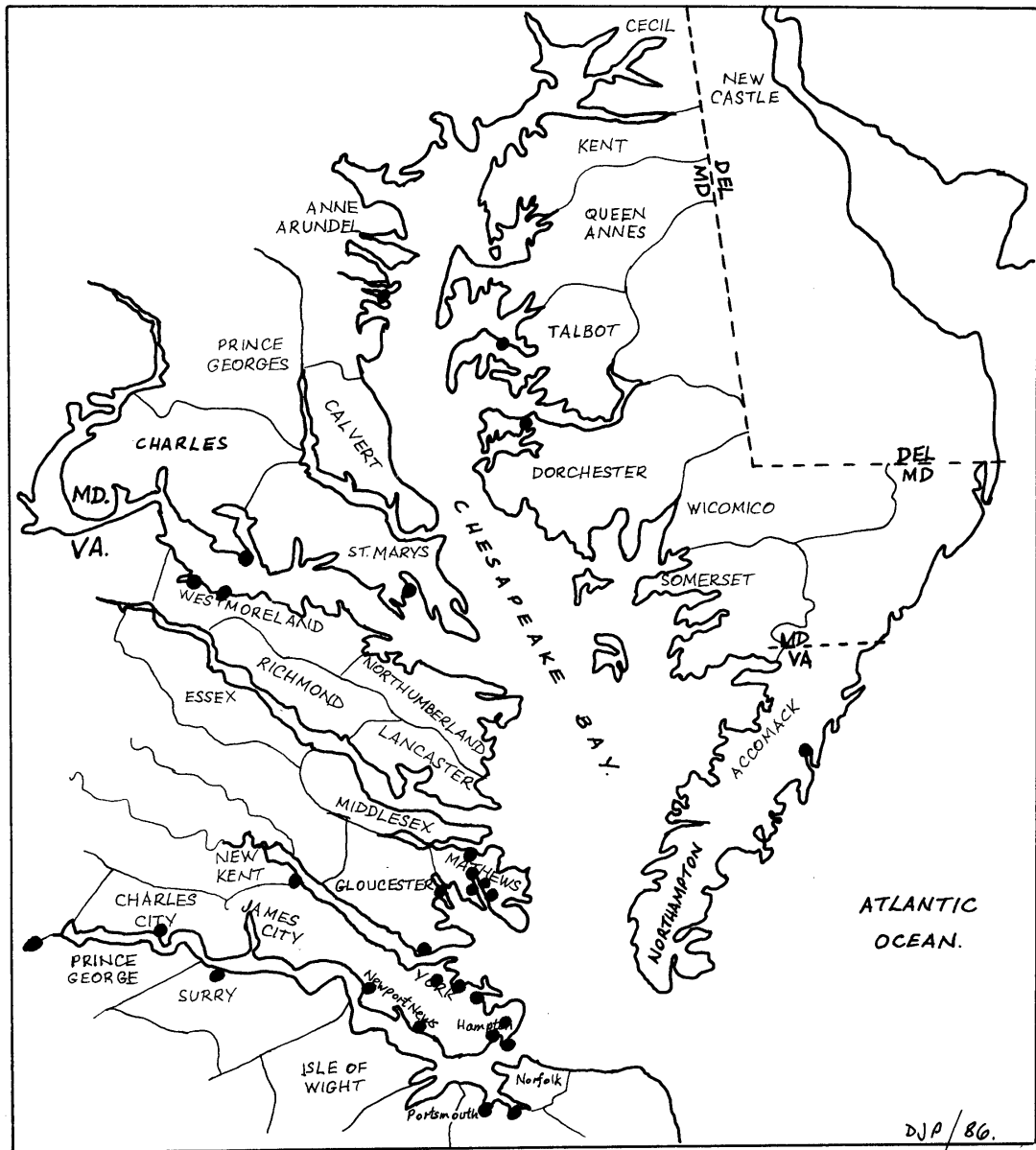
INFORMATION - SITE NOTES

County: Dorchester. Place: Cambridge. Mill Name: Ennells. Operating: (no data).	Site reference via JS*; either Choptank or Little Choptank River. Not confirmed, DP*.
County: Talbot. Place: St. Michaels. Mill Name: Hambleton. Operating: from 1825.	Site, south bank of Miles River to Hambleton Cove. New motel development on headland site. Good historical data on file. Visited by DP* in 1986.
County: Anne Arundel. Place: (Rhode River). Mill Name: Mayo's. Operating: (no data).	Site, reference via JS*, possibly north bank of Rhode River. Not confirmed, DP*.
County: Charles. Place: Cobbs Neck. Mill Name: (Cobbs Neck). Operating: (no data).	Site, reference vai JS*, Potomac River, adjacent mouth of Wicomico River. Not confirmed, DP*.
County: St. Mary's. Place: (no data). Mill Name: (see notes). Operating: (no data).	At least two sites are believed to be in the area of St. Mary's. No further data currently available but map sources are to be checked. JS*, DP*.

Abbreviations: MM\* Milton Murray, Mathew, USA.  
 TH\* Ted Hazen, Washington DC, USA.  
 JS\* Jon Sass, England.  
 DP\* David Plunkett, England.

DISCUSSION

In answer to questions, D. Plunkett stated the total of 23 known sites in the Chesapeake Bay area could be compared with at least 200 in England and Wales. Local conditions included poor agricultural land and a low population density. A factor likely to affect the choice of tide mills was the great use of water transport, which favoured coastal mill sites.



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