

Woodbridge Tide Mill Museum

Silt jetting to clear the mill race exit

Questions and Answers

What is happening?

Small scale jetting involves pumping river water from the Mill Pond, topped up from the Woodbridge Marina and spraying it under pressure in a tight pattern to move silt and repair the narrow channel followed by Mill Pond water flowing back into the river Deben after it has turned the Tide Mill wheel.

Why is this important?

The build-up of silt threatens the future of water milling at Woodbridge Tide Mill Museum. The Mill is one of only two working tide mills in the country. It is a charity that raised over a million pounds from the Heritage Lottery Fund in 2011 for considerable work on the structure with the core purpose of preservation to show visitors flour milling with its wood and iron machinery as used over 850 years. This activity is the one under threat.

What's the problem?

A tide mill works because the incoming tide fills a mill pond at high tide and then, when the river is at low tide, the water in the mill pond is released back into the river along a mill race (a narrow stream of water) powering a mill wheel and stirring up food for the seabirds on its way.

The silt level in the river Deben adjacent to the Mill has built up in the mill race, increasingly slowing its flow to the extent that running the milling machinery, the Mill's prime purpose, is becoming difficult on an increasing number of days.

The force of water required to turn a large water wheel is insufficient to flush water-born silt away from the narrow mill race channel. The Deben is silting to such an extent that silt in the channel, much loved by our seabirds, requires clearing out from time to time. Now is such a time.

How can it be fixed?

We can improve the flow in the mill race - the narrow channel followed by Mill Pond water flowing back into the river Deben, after it has turned the Tide Mill wheel. We will do this by water being pumped from the Mill Pond and Woodbridge Marina and sprayed under pressure in a tight pattern precisely to do this.

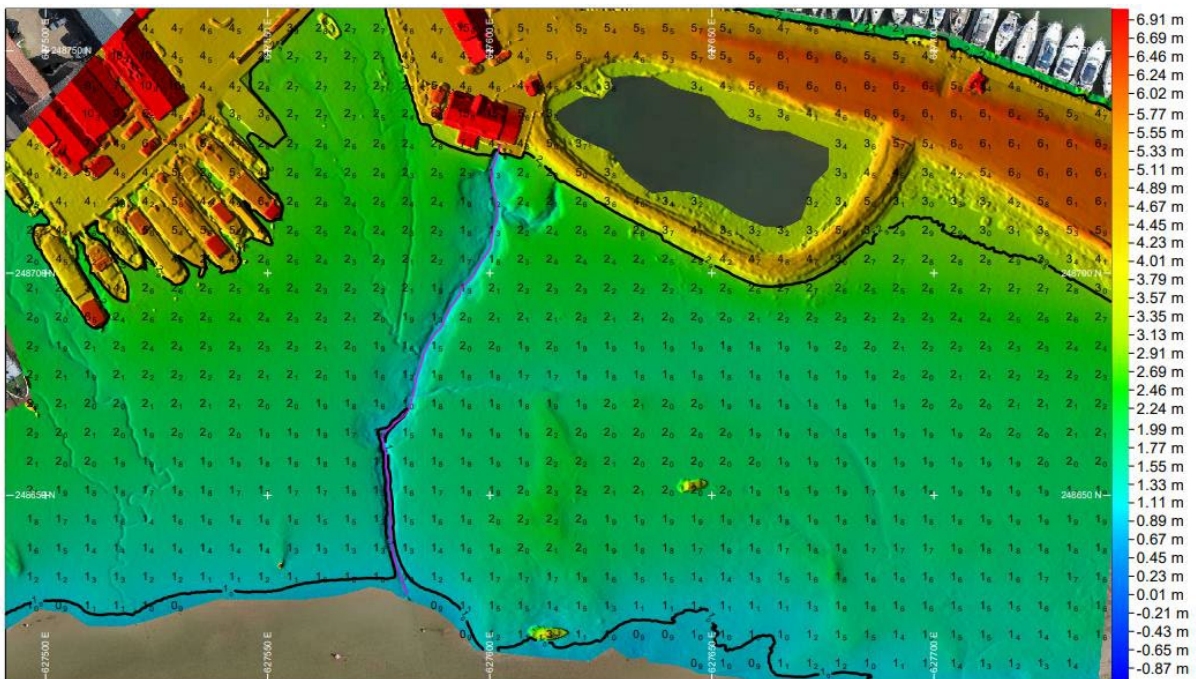
What does the process of jetting involve?

Water jetting with high pressure hoses (fire hoses) will liquify accumulated material, whilst flushing water from the Tide Mill Pond will wash liquified sediment into the outgoing tide. Works will be carried out during outgoing tides for an approximate duration of 4 hours per day. The uppermost 30 metres from the tide mill will be targeted, whilst maintaining the channel position, shape and approximately 4 metres maximum width. Therefore, people will be walking out from the Tide Mill 30 metres, following the existing channel with a works area of

approximately 4 metres wide. This will be achieved with a team of up to three people of which some will work on the mudflat within the 30 metres of the tide mill, supported by a small 1x1m plastic modular pontoon for safety. The team will manually hose the mud away from the Tide Mill.

In this way it is anticipated that less than 50m³ of sediment will be dredged. The methodology and effectiveness will be monitored to make decisions over future dredging requirements.

The light blue line running from the red coloured mill image on the aerial scan below shows the area where the work will take place.



What happens to the silt jetted away?

The silt is jetted from the mill race and taken away on a strong tide. The total amount of silt to be jetted is very small and, once jetted, it will be taken in suspension toward the sea. The Mill is a quintessential example of green energy. It has been awarded the Suffolk Gold Carbon Charter several years running recognising its commitment to reducing its the environmental impact. The Trustees of the charity have gained permission to clear silt from the Mill race.

Are you allowed to do this?

Yes. Woodbridge Tide Mill Charitable Trust has been granted, permission from the Mill's owner, Woodbridge Town Council and Natural England to do this work.

Will this fix the problem for good?

No. The wider silting of the Deben is a much bigger issue. In due course Woodbridge Historic Riverside will have to address this. There is no date yet for a major dredging project. Any plans are still in their infancy. A proper dredging project will be very expensive and so it is anticipated that a joint project will be required involving all those along the Riverfront. If the dredging goes ahead, the Mill will work with other interested parties to plan the project and raise funds to meet its costs.