

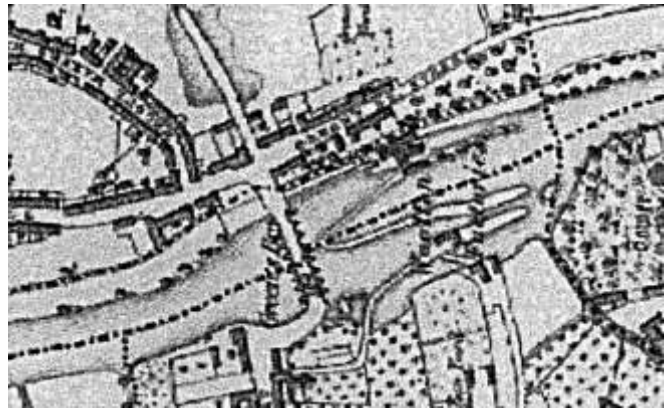
Mills

Water power was used for grinding grain in Kilkenny from the time the town was founded by William Marshall in 1207. In modern times, water power was used to work the machinery of tuck mills where cloth was thickened after weaving, and to work the machinery for spinning and weaving cloth.

Each mill would need a reliable supply of water, so a weir was built across a river to turn the water into a man-made channel called a head-race. At the mill building the water turned a mill-wheel and this worked all the machinery of the mill. Afterwards the water made its way through a tail-race back into the main channel of the river.

Green's Bridge

When this map was drawn about 160 years ago, there was a double weir just below Green's Bridge. It supplied water to a mill on each bank of the river. You can just about make out the short head race and tail race for each mill.



This drawing by J.G. Robertson was published around the same time and shows the mill on the west bank of the river, with its waterwheel clearly visible.

On the right is a view of the weir around the year 2,000 AD when the level of the Nore was lowered for the flood relief scheme. The right arm of the weir is intact, but the rest has been badly damaged.





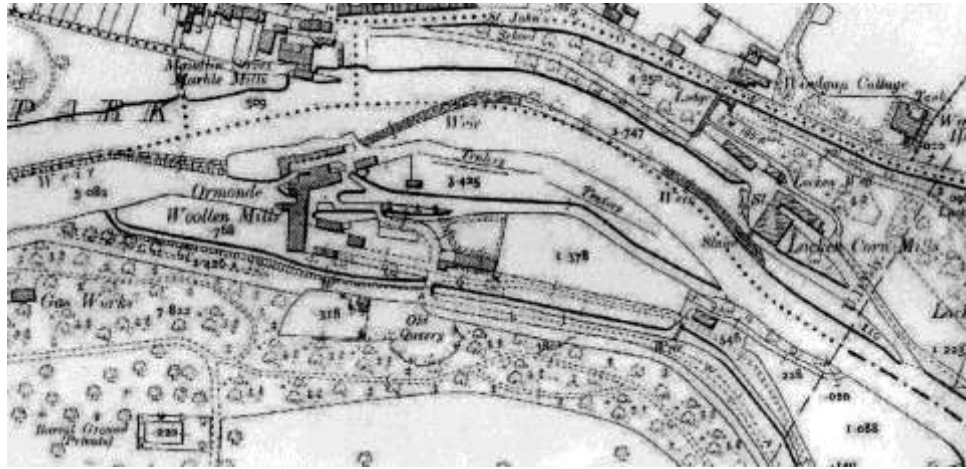
On the left bank stood another mill. This is Green's Bridge Woollen Mills around 1950. The weir was completely intact. By the time the second photo below was taken, the mill buildings had almost completely disappeared. During the flood relief scheme, a group of archaeologists investigated the area. You can see them at work in the lower picture.

All that remains of the group of mill buildings is a bridge over the mill race and some low walls, together with an island between the old mill race and the main channel of the Nore. The archaeologists found traces of earlier mills and weirs. After they had finished most of the land along the river was removed, and the river bed deepened.



Ormonde Woollen Mills and Lacken Corn Mills.

This map from the beginning of the 20th century shows a weir diverting water into the mill race of Ormonde Mills. Also marked are the tents where cloth was stretched and dried after fulling.



The mill continued in use until it was burned down in 1969. Today it is in ruins.



Lacken Mill is also in ruins. It closed sometime in the first half of the 20th century.

On the map above you can see part of a millrace at the end of Maudlin Street. There is a mill marked here as well.

Fennessey's or Archersgrove Mills

Further downriver was Fennessey's Mill, named Archersgrove Mills in this map from a hundred years ago.



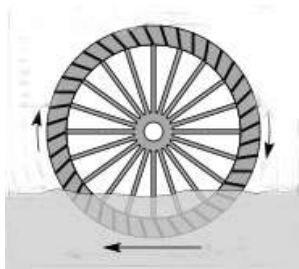
The fine stone weir shown on the map has been almost completely destroyed, and the mill race is dry except in time of flood.



The River Bregagh too had its mills. The best known was Black Mill, after which the street is named. This map shows the location of the mill and the mill pond which was filled in sometime in the 1930's.



At the present, the site of the Black Mill and its mill pond is occupied by the Butts Roundabout . When the Waterbarrack Bridge was built the Borough Council commissioned this sculpture. It is a reminder of the machinery found in mills such as the Black Mill. The millwheel provided the power for the mill, but this power had to be brought to various parts of the mill by means of shafts, gears and pulleys. The sculpture represents gear wheels. The water in the mill race pushed the buckets on the rim of the water wheel. From this wheel a shaft ran into the mill and a toothed pit wheel rotated with the shaft. The direction of rotation of the shaft could be changed by spur gears. If the spur gear on the right is rotating clockwise, then the other will rotate anti-clockwise. When a smaller spur gear (or pinion) is moved by a bigger one, it spins much faster. Sometimes it is necessary to change the rotation at a right angle. In this case bevel gears are used.



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In this way machinery in all parts of the mill, including upper floors could get its power from the water wheel outside the building in the mill race. In the past the only sources of power were human or animal muscle, windmills or water mills. The development of steam power in the 18th century changed things. In England factories could be built in other places besides on rivers. They were very often built close to coalfields. In Ireland there was no coal suitable for steam boilers. The Castlecomer coalfield near Kilkenny produced anthracite coal and this burns too fiercely for use in steam power. This meant that coal for steam engines had to be imported into the country, and so up to the end of the 19th century Ireland still depended mostly on water power. Nowadays electricity had become the most important power source, whether it is produced in coal or oil burning power stations, or in hydro-electric stations powered by falling water – just as the old mills used the country's rivers.

As electricity took over, the old mills closed one by one, and most have fallen into ruins, not just in Kilkenny, but all over Ireland.