

REF EA - Thames

LOCKS AND WEIRS – THE HISTORY

From pre-historic times the Thames has been used by man as a route for transporting himself and his goods. He undoubtedly encountered difficulties and hazards when he ventured onto the river in his frail dug-out canoe or on his unwieldy raft. But as he faced even greater problems if he journeyed on land, where no roads existed as we know them today, he used the river whenever he could. In those days, and in its natural state, the stream wandered at will, along many channels and through extensive marsh-lands.

In summer, due to lack of water, there would have been shallows to negotiate. In winter or after heavy rains there were raging floods.

We do not know when the first rudimentary weirs were built – or by whom. We do know that Viking raiders built the occasional dam to raise water levels over shallows that had grounded their longships. We also know that fish traps were built out into the river and that millers built weirs to hold back water to power their mill wheels.

And so, whilst the building of weirs assisted one of the navigator's difficulties – by raising water levels – the presence of the weirs themselves posed another problem – how to get boats past the dam-like obstructions?

Where the weir had been built by a miller to hold up water to power his mill wheel, he would not have been pleased to open up sections of his weir to allow boats free passage. Water was lost and his mill wheel would have stopped turning.

On the other hand the navigator had his right of passage, confirmed by Magna Carta in 1215.

No doubt much fierce bargaining took place locally!!

Weirs were then built with sections that could be removed to allow river traffic through and were known as 'flash locks'. They were difficult and dangerous to use

although the last of these was not removed from the Thames, at Easton Hastings, until 1937.



From these early beginnings the weir and lock system on the Thames that we know today slowly developed.

It is known that the first 'pound locks' on the Thames were constructed in the Oxford-Abingdon area in the 1630s. A 'pound lock' is simply an artificial chamber with gates at either end and the basic principle of operation relies on the fact that water always finds its own level. The diagram overleaf helps explain how it operates.

Weirs are used today to control water levels for land drainage, water supply and navigation reasons and each weir on the Thames can be by-passed by river traffic using the adjacent pound locks.

The Navigation Service of the Environment Agency, Thames Region, mans and maintains 45 locks and weirs on the Thames. The highest is St. John's Lock near Lechlade at 73.1 metres (234 feet) above sea level – the lowest is at Teddington, Middlesex at 4.3 metres (14 feet) above sea level.



ENVIRONMENT AGENCY

KINGS MEADOW HOUSE, KINGS MEADOW ROAD, READING, BERKSHIRE RG1 8DQ
TELEPHONE 0118 9535000

ENVIRONMENT AGENCY



017538

EA-THAMES

80x3

LOCKS AND WEIRS ON THE RIVER THAMES

How do they work?



ENVIRONMENT AGENCY

PREPARED BY THE DESIGN GROUP FOR THE EA

THE 1999-2002 RILEY

SIMPLIFIED CUTAWAY DIAGRAM OF AN ELECTRO-HYDRAULIC LOCK ON THE RIVER THAMES

HOW IT WORKS

(Upstream bound; reverse for downstream)



Tail gate open - Boat enters lock.



Both gates closed - Lock filled via sluices.



Levels equal - Gate can be opened.

