The Environment Agency owns or operates a large number of locks and weirs on the River Thames. These structures can present a physical barrier to migration, or have the potential to harm individual fish and populations.

For at least three decades the Environment Agency has been working to secure fish passage on the structures it owns and operates on the navigable Thames. Historically the fish passes that we have designed and installed have been 'technical solutions' such as Larinier or Denil passes. While these fish passes have been proven to be effective for a wide range of fish species it is generally accepted that nature-like bypass channels are both more effective and efficient at passing a wider range of species and individual fish. If designed correctly these naturalistic bypass channels can also help to restore natural riverine processes.

Natural channels are however often more difficult to construct. A number of constraints, including the availability of land upon which to locate a new channel, can mean that this option is ‘screened out’ at the feasibility stage.

However, in West Thames Area we have now successfully constructed three bypass channels on the River Thames at Radcot, Hinksey and Penton Hook. Working with partner organisations we also have plans in place for bypass channels at Shifford, Sandford, and Kings Weir.

At Radcot the ‘land take’ was reduced by shortening the length of the bypass channel. The effect of this is that the channel gradient is increased. In order to ensure that conditions were right for multi-species fish passage six brush baffles were incorporated into the channel.

The bypass channel at Radcot was designed to be a joint fish and canoe pass therefore maximising its value for both fisheries and recreation.

It is a common misconception that bypass channels are always more expensive than technical fish passes. However, the 120m long channel at Radcot cost just £150k (cost savings were made as it was delivered as a component of the weir refurbishment). The Hinksey bypass channel was constructed using the Environment Agency’s internal work force (Operations Management) for £70k. This channel was 100m long and lined with gravel to maximise the value of the habitat created for species such as chub, dace and barbel.

Over the next few years our Fisheries team will be monitoring the success of these channels and we will be looking for further opportunities to construct more of these naturalistic bypasses.