

To hell and back - the story of the Thames restoration

Presentation for India-UK Water Security Capability Exchange Initiative

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Winning the World Cup for Rivers





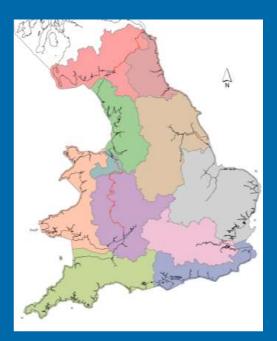


Celebrating with representatives from a few of our many partner organisations



The prestigious International Riverprize has been awarded annually since 1999. The UK winners to date are the Mersey (1999) and the Thames (2010)

The Thames Catchment









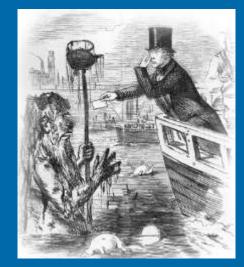






Flooding and pestilence

19th century Punch magazine cartoon: Faraday holding his nose as he hands Father Thames his business card



19th century Punch cartoon: 'Death River'



EAST COAST FLOOD DISASTER

over 150 Reported Dead GREAT STORM SWEEPS SEA INLAND

Many Thousands Evacuated

The death-roll in disastrous floods along the East Coast on Middlesbrough to the Thames yesterday had risen to or 150 early this morning and was still mounting.

Towns and villages were swept by high seas driven by the storms ich, on the other side of the country on Saturday, overwhelmed stranger-Larno ferry and caused the loss of 133 lives.

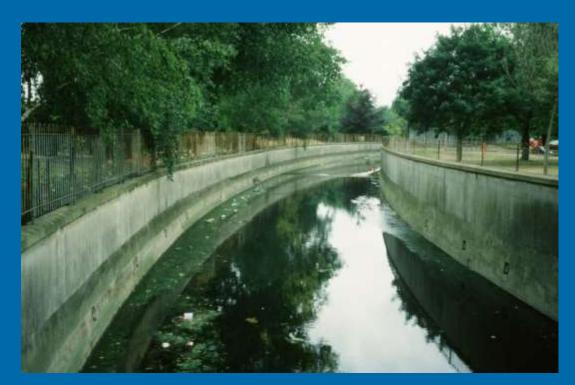
to far as is known deaths in the areas which suffered most severely





The 'Great Stink' of London in 1858 led to the temporary closure of Parliament due to the overpowering smell emanating from the Thames

The concrete age



River Ravensbourne, London

River Quaggy, London



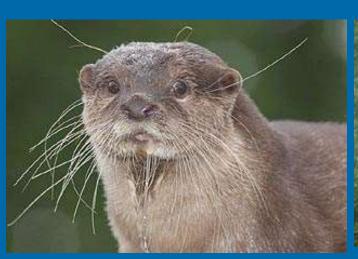




96% of all watercourses in the Thames catchment have been modified by man in some way

The remarkable recovery

- Sood water quality increased from 53% (1990) to 80% (2008)
- 125 species of fish
- Healthy breeding Otter population
- Over 1000 habitat enhancement schemes since 1990
- Over 100 km of river restored since 1990



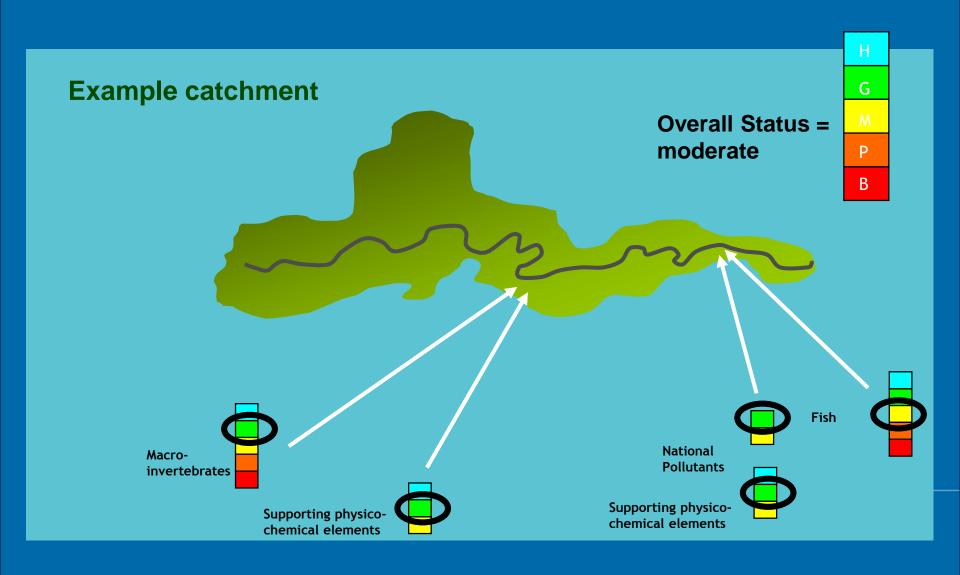






Otters were extinct in the Thames catchment in 1989. In 2009 signs were found in 53% of the survey sites.

The European Water Framework Directive - classification principle – one out - all out



Catchment restoration through sustainable land management





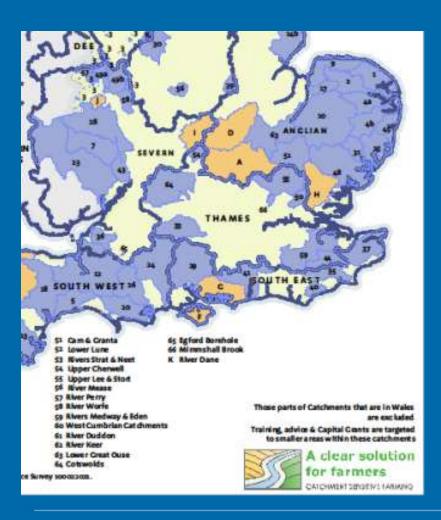






Agriculture is responsible for 25% of the phosphorus and 75% of the sediment in rivers.

Catchment restoration through sustainable land management



Catchment Sensitive Farming

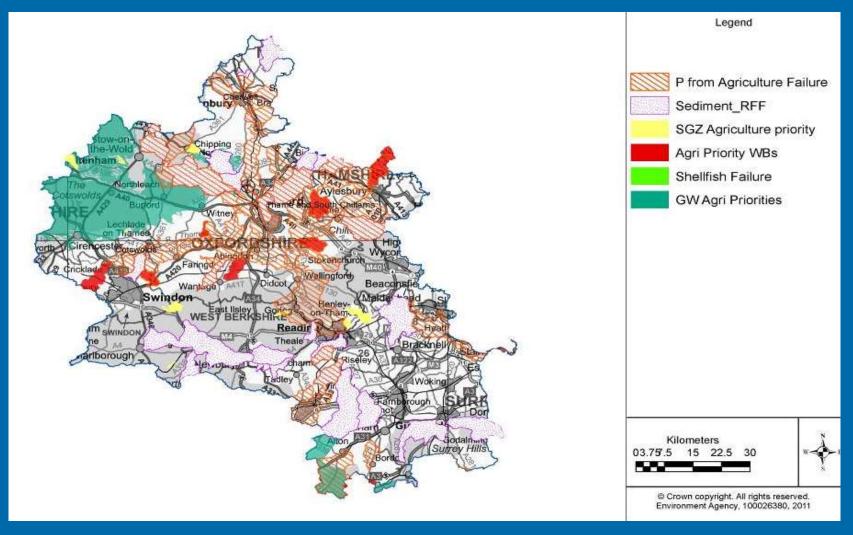






£160K of natural flood management work at Holnicote in Somerset, reduced the flood peak by 10% and prevented £30M of assets (90 properties) from flooding during a 1 in 50 year flood event on Christmas Eve 2013.

Catchment Sensitive Farming - targeting









The water treatment cost of soil erosion is app. £21 M p.a. in England. An additional £45M p.a. is spent on dredging our rivers.

Catchment restoration through sustainable flood risk management

- 11 km of new river
- ₱ 5,500 homes and businesses protected
- 17 years in development
- 250,000 native trees planted
- 20 ha of wetland created



Jubilee River, Berks / Bucks



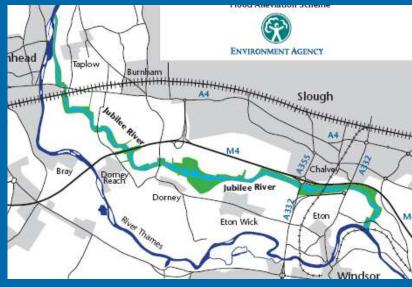




Infiltration rates are up to 60x higher under young native woodland shelterbelts on sloping ground compared to adjacent heavily grazed pasture

Catchment restoration through sustainable flood risk management













The value of natural pollination to UK agriculture is estimated at app. £1Bn p.a.

Catchment restoration through sustainable flood risk management



Fobney Island R. Kennet, Reading



R. Beam Parklands, **Dagenham**





Catchment restoration through urban river restoration



THE LONDON RIVERS ACTION PLAN

A tool to help restore rivers for people and nature

Key aspirations:

By restoring the City's rivers, improve flood management, reduce the impact of dimate change, reconnect people to the natural environment, gain better access for recreation and improved well-being, and enhance habitats for wildlife.

A linked website:

To provide an information resource in the form of a web-based map that highlights opportunities for restoring London's rivers in the Greater London Authority area. www.therrc.co.uk/lrap.php

Who should use this guide: Anyone interested in improving the wildlife and amenity value of a river, especially community groups, local business, planners and developers.



A 21% increase in channel length combined with a 142% increase in the frequency of large woody debris accumulations across a range of river restoration projects, resulted in a 21% reduction in flood peak magnitude on average

Catchment restoration through urban river restoration



R. Quaggy at Sutcilffe Park, Lewisham





"London is a concrete jungle and places like this are like your lungs of London... it's your own little countryside."

> Roy Palmer, local resident



Catchment restoration through urban river restoration





River Ravensbourne at Ladywell Fields, South Iondon – reconnecting people with nature



Visitors to Ladywell Fields urban greenspace in South London increased by >250% after restoration of the River Ravensbourne through the park

Catchment restoration through urban river restoration





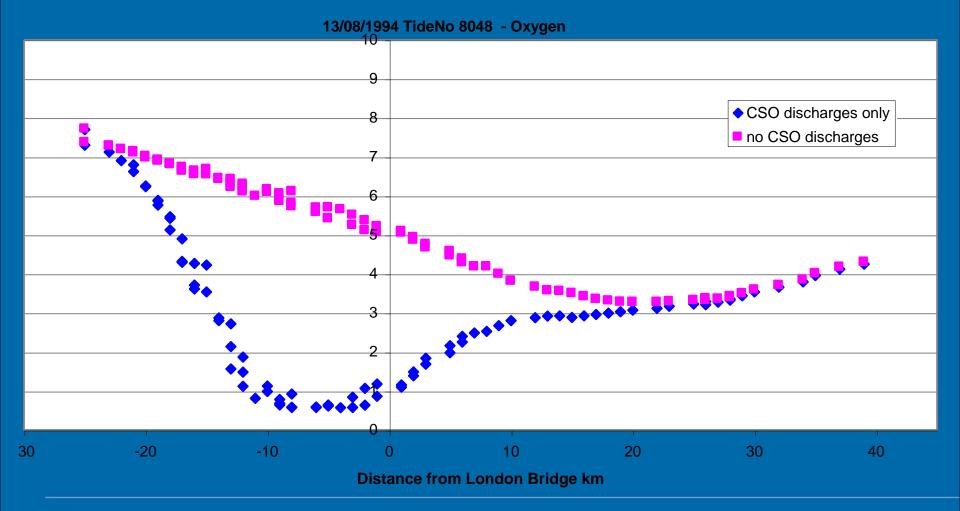
River Ravensbourne at Cornmill Gardens, South London – restored as part of a housing development





Environment Agency staff advise on > 3500 planning applications per annum across England in order to minimise the environmental impact and to secure opportunities for environmental improvement

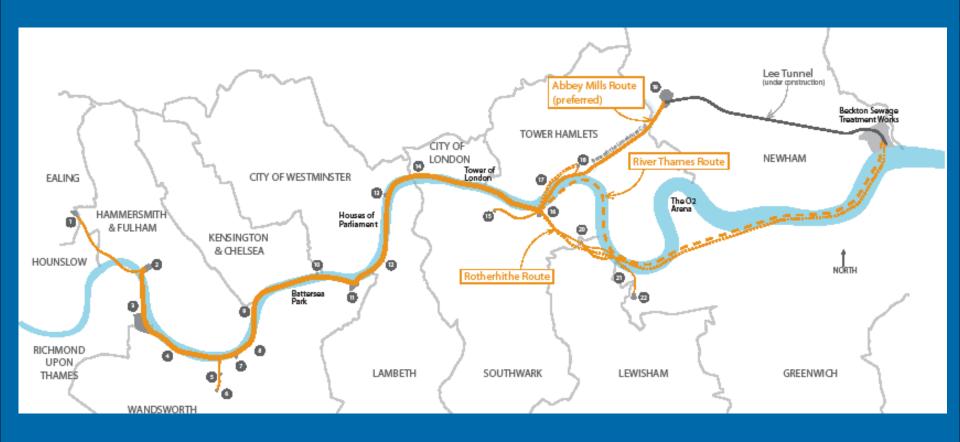
Catchment restoration through reducing Combined Sewer Overflows





Oxygen levels in the tidal Thames with and without Combined Sewer Overflows

Catchment restoration through reducing Combined Sewer Overflows





Catchment restoration through SuDS







Hollickwood Primary School

Susie Earnshaw Theatre School







Queen Elizabeth Girls' School, Pymmes Brook catchment, North London



On average, urbanisation without SUDS trebles the rate of run-off during storm events

Catchment restoration through adaptation to climate change





Catchment restoration through adaptation to climate change





Thames Estuary 2100 project

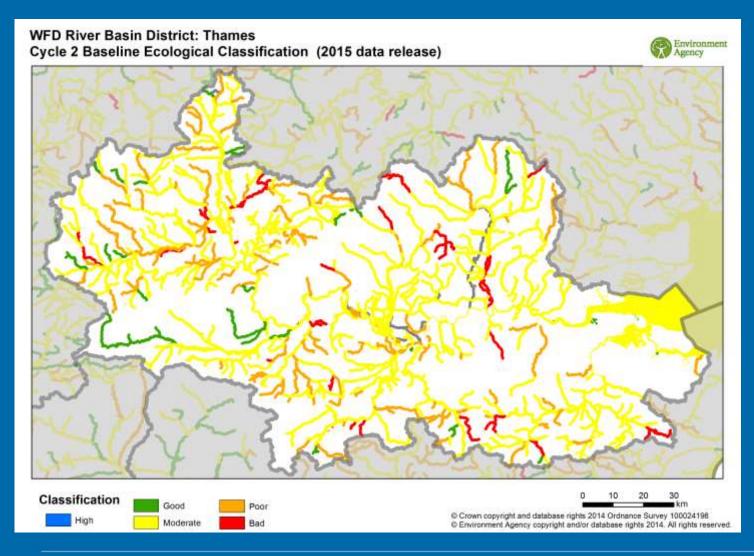


Freshwater habitat creation at Great Bells Farm, Sheppey



The 400 ha Alkborough Flats managed realignment scheme cost app. £10M and provided £12M of storm protection to land and property. Other ecosystems services benefits = app. £1M p.a.

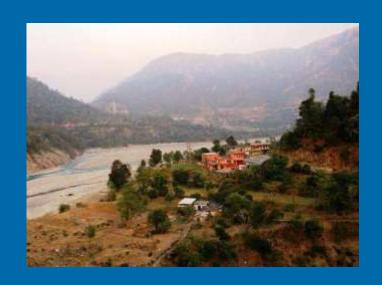
The huge challenge ahead



2015 WFD status for rivers and lakes in the Thames River Basin District



So what happened to all that prize money?!!



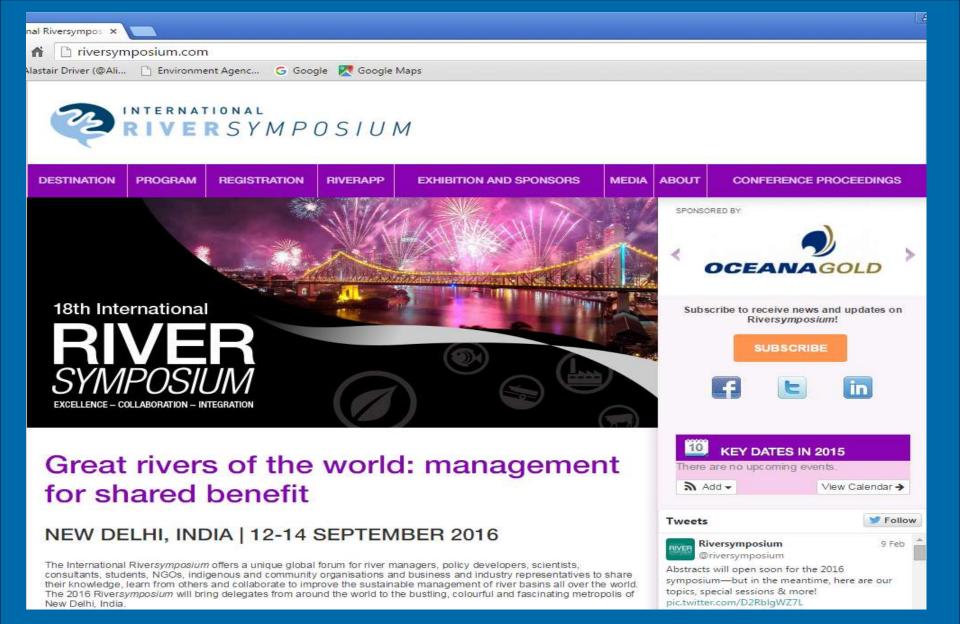


Twinning Project -Yamuna River, India











The annual International Riversymposium will be held in New Delhi in 2016 and outside Australia for the first time since its inception in 1998

Thankyou for your attention



