



Colloque international sur l'étude, la restauration et la gestion de l'aloise  
International symposium on restoration and conservation of shads

## Shad Severn-LIFE: Conservation and restoration of twaite shad *Alosa fallax* in the Severn Estuary/ Môr Hafren Special Area of Conservation

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*Session 3 : Other examples of shads management in the world*

**Bergerac**  
14-15 octobre 2015

Where is the  
Severn Estuary



Images





## Historic Prospective

In the court of Henry III (1207-72) shad rivaled salmon and lamprey. Up to two thirds of all fish caught in the estuary were shad

Shad were so numerous that they were used as a fertilizer, particularly in the Shrewsbury area. These large runs all disappeared within three years of the installation of the navigation locks between Worcester and Stourport-on-Severn in 1850's





## Historic Prospective

1852  
An important special meeting of the Commissioners for the Improvement of the Navigation of the Severn, incorporated by the act of 5th Victoria, was held at Worcester on Thursday afternoon, to determine the propriety of immediately applying to parliament for powers to complete the improvement of the navigation of the river between Worcester and Gloucester. The chair was taken by Mr. W. P. Price, M. P., in the absence of the Right Hon. Sir John S. Pakington, M. P., president of the commission. The Severn Commission is invested with powers to improve the navigation of the Severn from Gloucester, a present shipping port, up to a point above Stourport, a distance of about 46 miles, and between Stourport and Worcester the river has been permanently improved by the constuction of fine locks and weirs, and the equalization of the channel.

## 1872 Annual Severn Commissioners' Reports

A circumstance has occurred in the last fishing season which is worthy of notice, namely - the capture of two shad by net fishing in the neighbourhood of Shrewsbury. Shad and twaite were formerly taken in abundance in the upper parts of the river, but their capture has been a very rare occurrence since the erection of the navigation weirs 25 years ago until this summer, when the exceptional wet season so frequently caused the weirs to be out of action that these fish were enabled to pass them



## Current designation

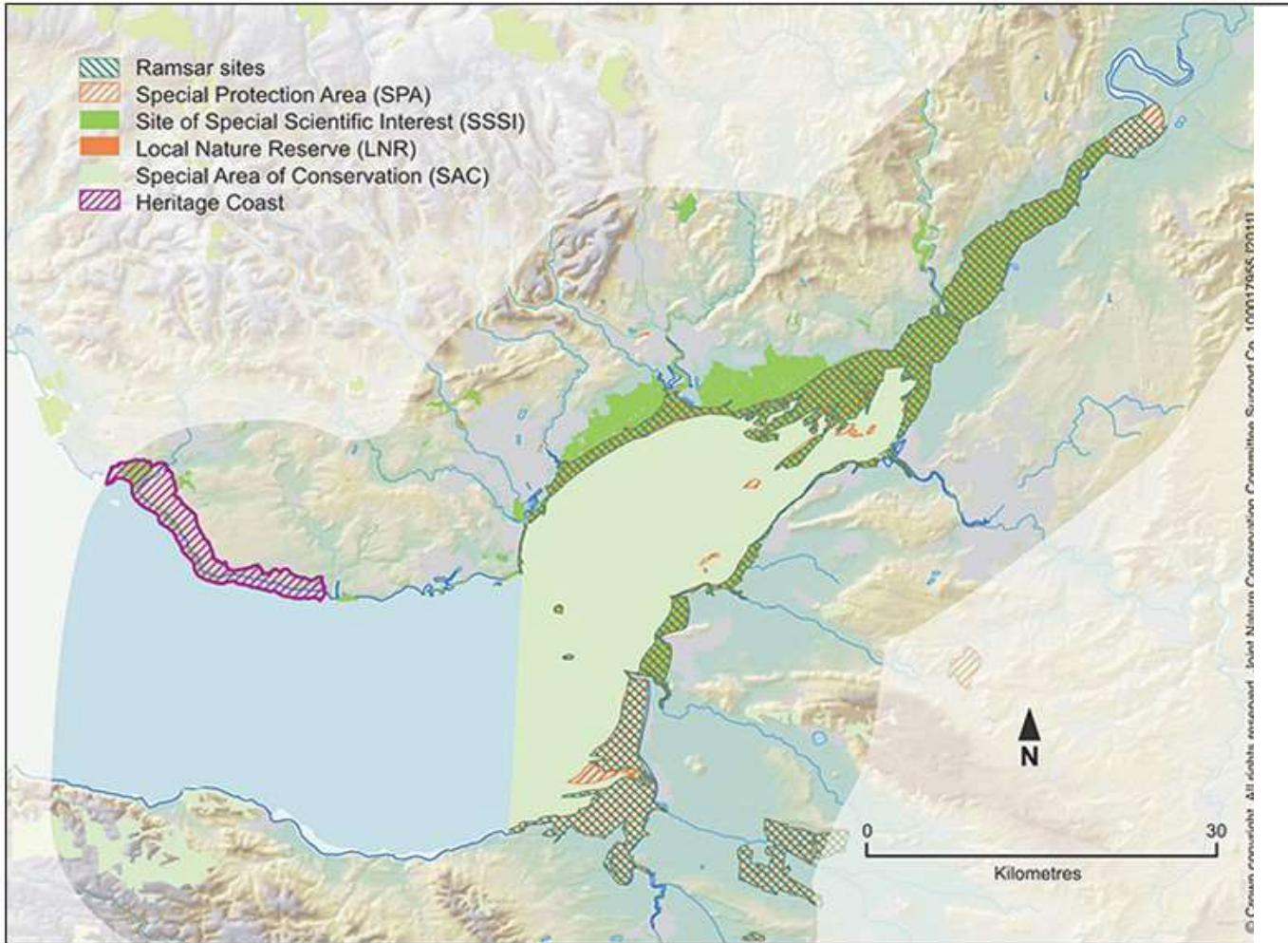
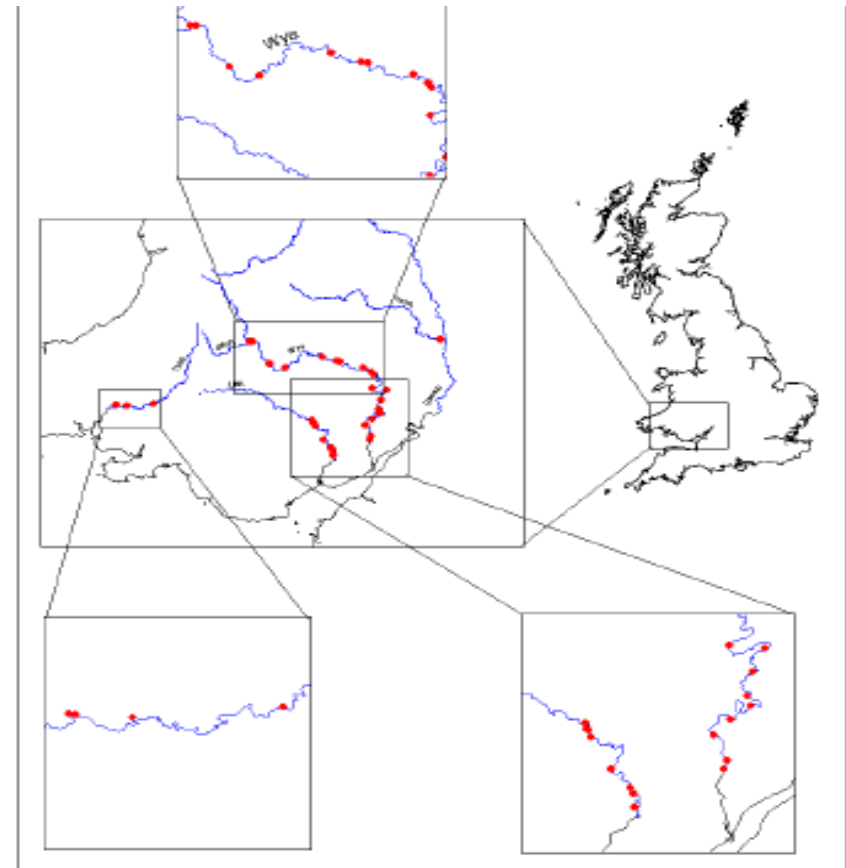


Fig.1: Map of the Conservation Designations currently in place in the Severn Estuary. Source: SEP

## USE OF RIVER HABITAT SURVEY TO DETERMINE THE SPAWNING HABITAT CHARACTERISTICS OF TWAITE SHAD (*ALOSA FALLAX FALLAX*).

P.A. CASWELL, M.W. APRAHAMIAN





Reason for unfavourable  
(recovering) status

Improvement Programme for England's Natura 2000 Sites (IPENS)  
Planning for the Future

## Site Improvement Plan Severn Estuary

Physical modification	Threat	S1095 Sea lamprey, S1099 River lamprey, S1103 Twaité shad	Reduce, remove (where possible), and prevent barriers to migratory species	Canal and River Trust, Environment Agency, Natural England, Natural Resources Wales, Local Enterprise Partnership (LEP), Severn Rivers Trust
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In the third report by the UK under Article 17 of the Habitats Directive, the UK Atlantic bio-region conservation status for *A. fallax* is “**unfavourable inadequate – improving**” (due to recent fish passage improvements on other SACs). The overall assessment is “**inadequate**” because range and population have been assessed as “inadequate” due to barriers to migration.





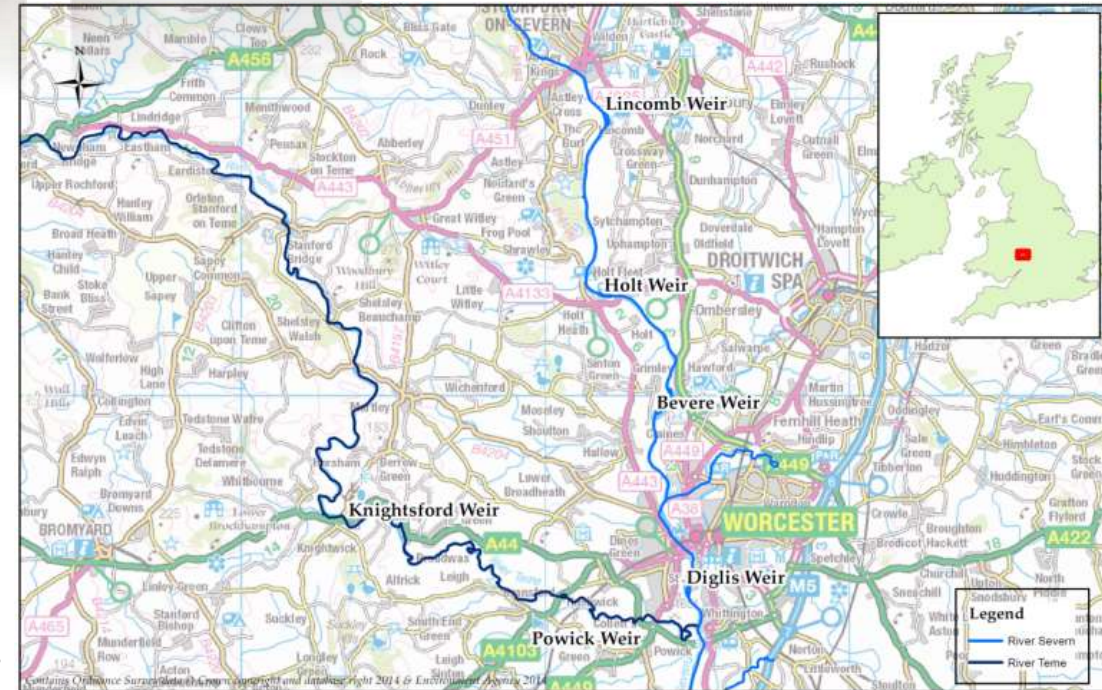
## The issue







## The issue



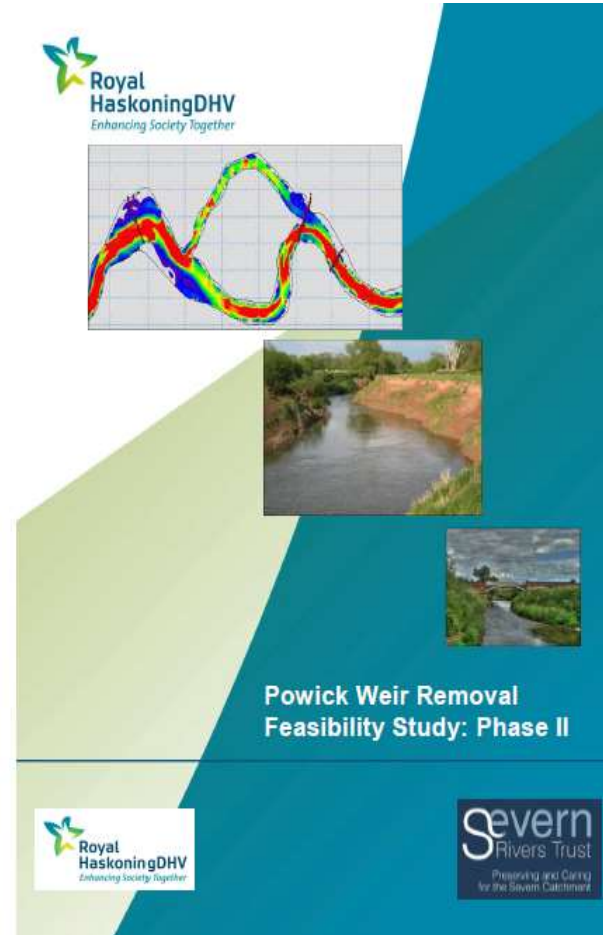
Key twaite shad (*Alosa fallax*) barriers on the River Severn and River Teme

0 0.75 1.5 3 Miles

The Teme weirs prevents access to **43km** of historic spawning grounds on the River Teme SSSI.

The four navigation weirs prevented shad reaching **156km** of historic spawning grounds

## The proposals



Royal HaskoningDHV  
Enhancing Society Together

Powick Weir Removal  
Feasibility Study: Phase II

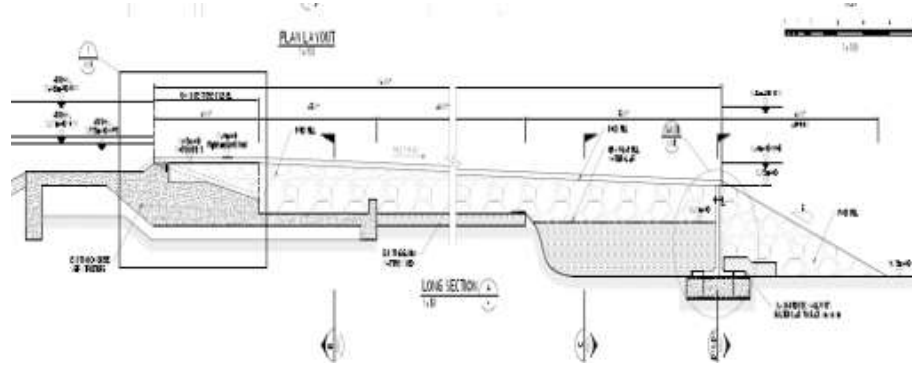
Royal HaskoningDHV  
Enhancing Society Together

Severn Rivers Trust  
Protecting and Caring  
for the Severn Catchment





## The proposals

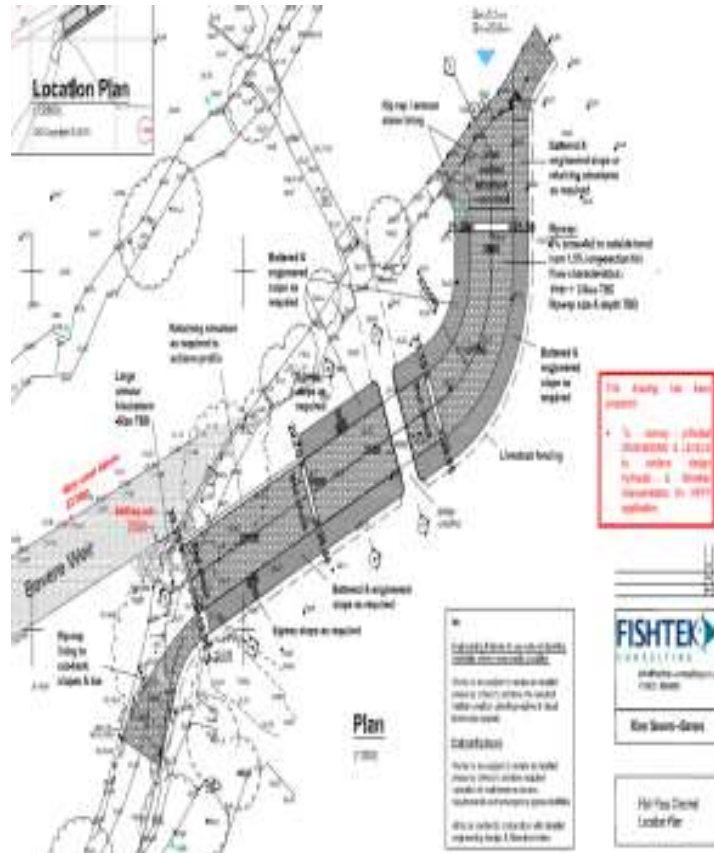


ENVIRONMENT AGENCY  
SEVERN RIVERS SAC - KNIGHTWICK WEIR  
FISH MIGRATION  
Options Appraisal and Outline Design & Costing  
Report



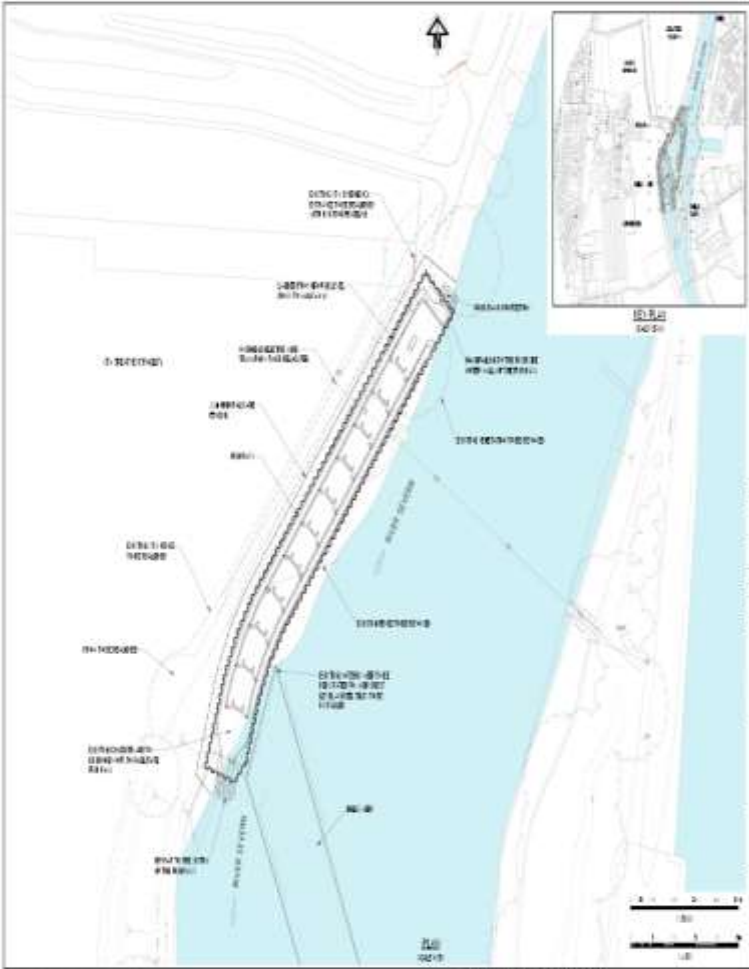


## The proposals





### The proposals





## The Bid / The Partnership



- The project will work towards favourable conservation status of the population of *Alosa fallax* in the Severn Estuary Special Area of Conservation (SAC)

- The project will directly benefit 57% of the breeding stock in the UK Atlantic bio-region, by increasing access to spawning habitat by 195% from 265km (2013 length, Article 17) to 518km

- We will work with local stakeholders to increase understanding of the biological and historic value of this species, the rivers and the Natura 2000 network

- The LIFE bid has been submitted and a HLF bid will be submitted by end Nov for the remainder...Total costs =£16.9 million (22.8m Euros)



Success will be measured through a series of actions;

- Best practice fish passage will be installed on seven weirs on the rivers Severn and Teme

- The success of the constructed passes in allowing migration of *A. fallax* will be monitored using best practice techniques and “citizen science”

- The dissemination of results will take place throughout the project by;  
An increase in local understanding of the biological and potential economic values of *A. fallax* and the river, through notice boards, project website, layman’s report, media engagement, project video and a variety of events

The effective transnational exchange of best practice for population restoration of *A. fallax* to instigate further work will be established via a technical handbook, technical publications in peer-reviewed journals, an International Shad Conference and networking with other fisheries managers across Europe



Future pressures?



6 lagoon = 8% of UK electricity or  
 4416 wind turbines or 10 nuclear  
 reactors



**Key Facts**  
 Length - 23km  
 Installed capacity - between 1,800MW and 2,800MW  
 Net annual electricity output - between 4TWh and 6TWh  
 Design Life - 120 years

Cardiff alone would produce  
 enough electricity for every  
 home in Wales



## Going forward

The status of *A. fallax* in this and two of the other three bio-regions in the EU are “unfavourable, bad and deteriorating” for similar reasons e.g. barriers to migration. We will work with colleagues across the regions to provide best practice solutions to restore and maintain favourable conservation status



Severn weirs fish passes project - French visit briefing sheet

Toby Coe (Technical Director, Fishtek Consulting)

27th April 2015

