

Jun 22nd, 3:00 PM - 3:15 PM

## Session C2: Converting Government Policy into Practice by Restoring the Connectivity of English Rivers for the Free Passage of Fish

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# **Converting Government policy into practice by restoring the Connectivity of English Rivers for the Free Passage of Fish.**

Jim Gregory  
Environment Agency England, UK.  
21<sup>st</sup> June 2015







# Recent 30 fish passage solutions

Cost Range: £6,594 - £1.3 million  
Average cost: £186,532  
Total cost: £5,595,964





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# Centralising Expertise And Technical Advice



## Environment Agency Fish Pass Manual

Document – GEHO 0910 BTBP-E-E

PublicationsCatalogue - Windows Internet Explorer  
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# [www.ifm.org.uk/](http://www.ifm.org.uk/)

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<input type="checkbox"/> Fishing and boating	4
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- [Manual for provision of upstream migration facilities for eel and elver](#)  
Description: This manual sets out design criteria for upstream passage facilities at obstructions for  
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- [Manual for provision of upstream migration facilities for eel and elver](#)  
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Description: A new method for counting fish as they move through a fish pass is published in a rep  
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Clearly a need to justify and

**prioritise resources**

for fish passage solutions



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# Starting Point:

Locate the physical

# Obstacles

to the free passage of fish



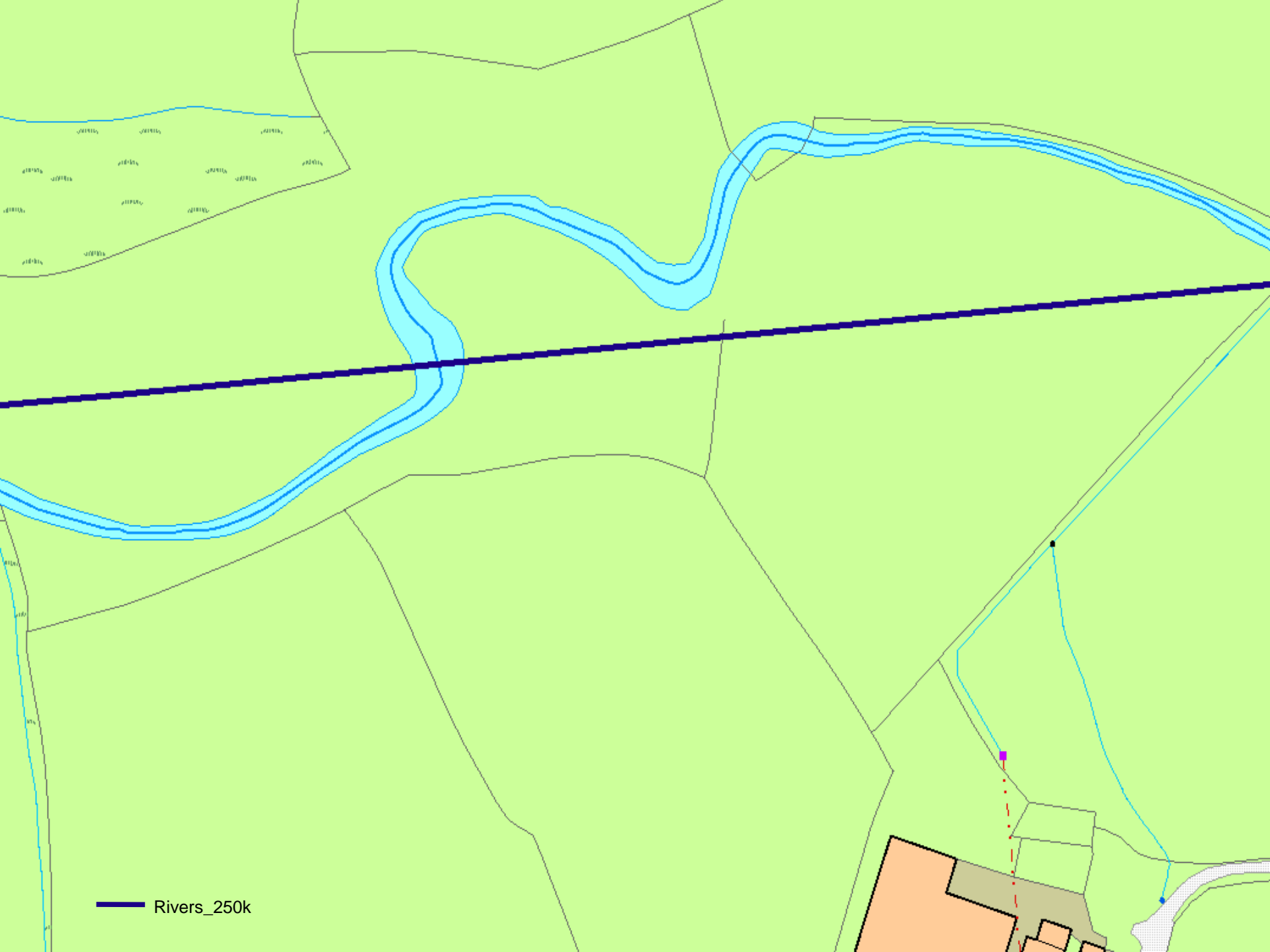
# Previous attempts to collate an England and Wales inventory of Obstructions:

- “Blank sheet of paper “ approach based on local, individual site knowledge.
- 2500 obstructions
- 17% over 1km from any water feature
- Inconsistent reporting
- Duplicate locations and names

No chance of any spatial analysis

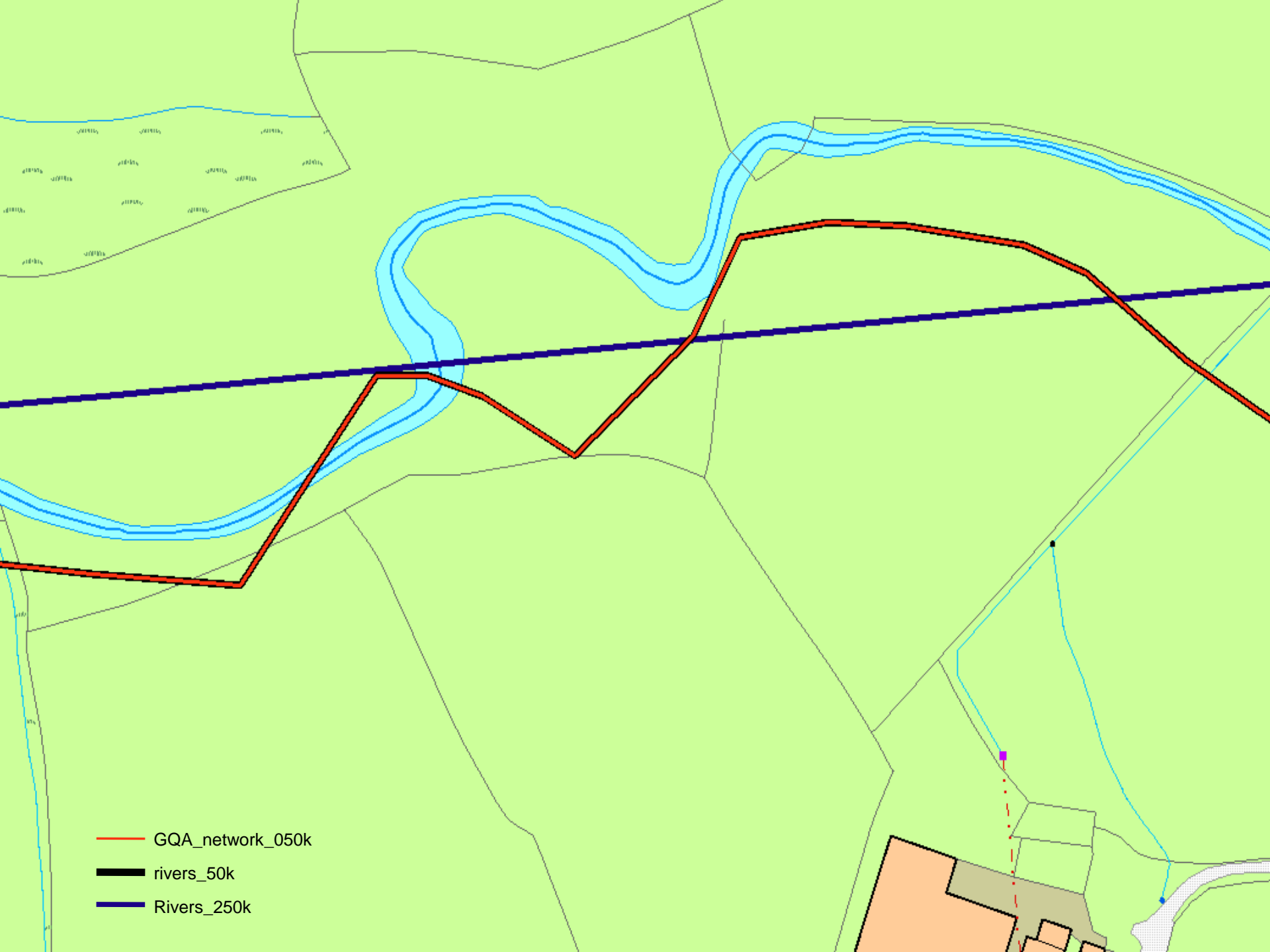
# Locating obstructions using the Detailed River Network

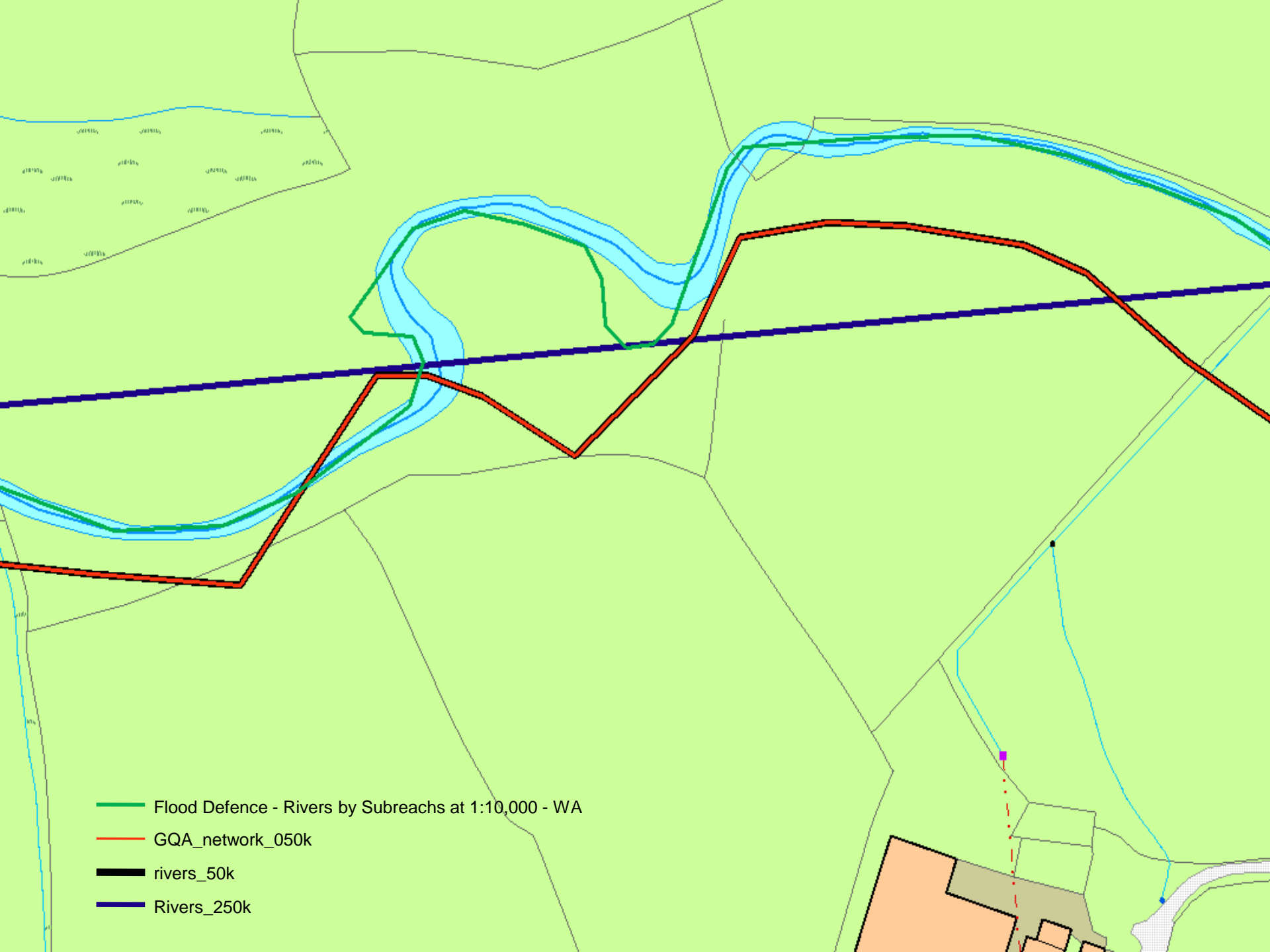




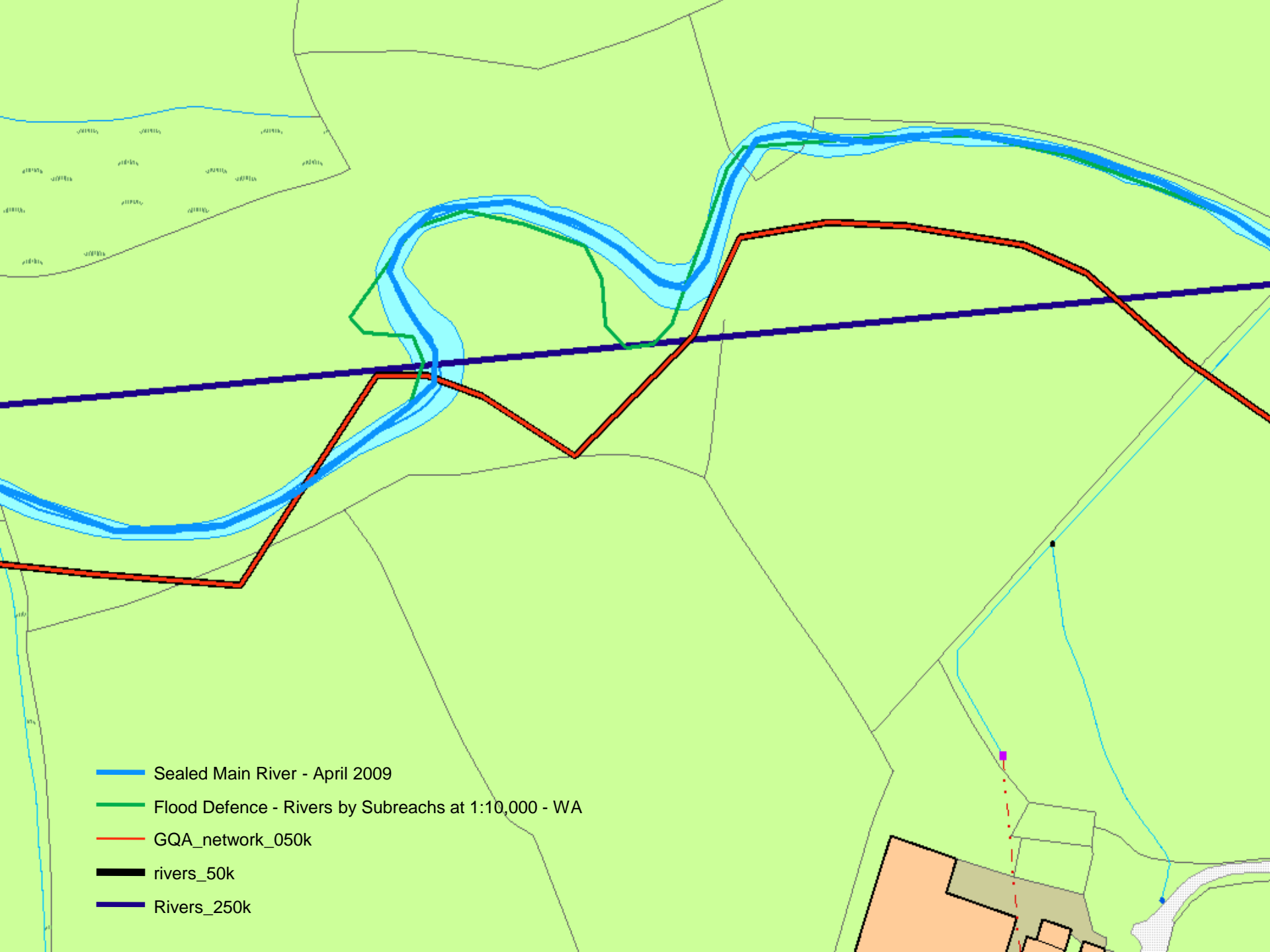
Rivers\_250k



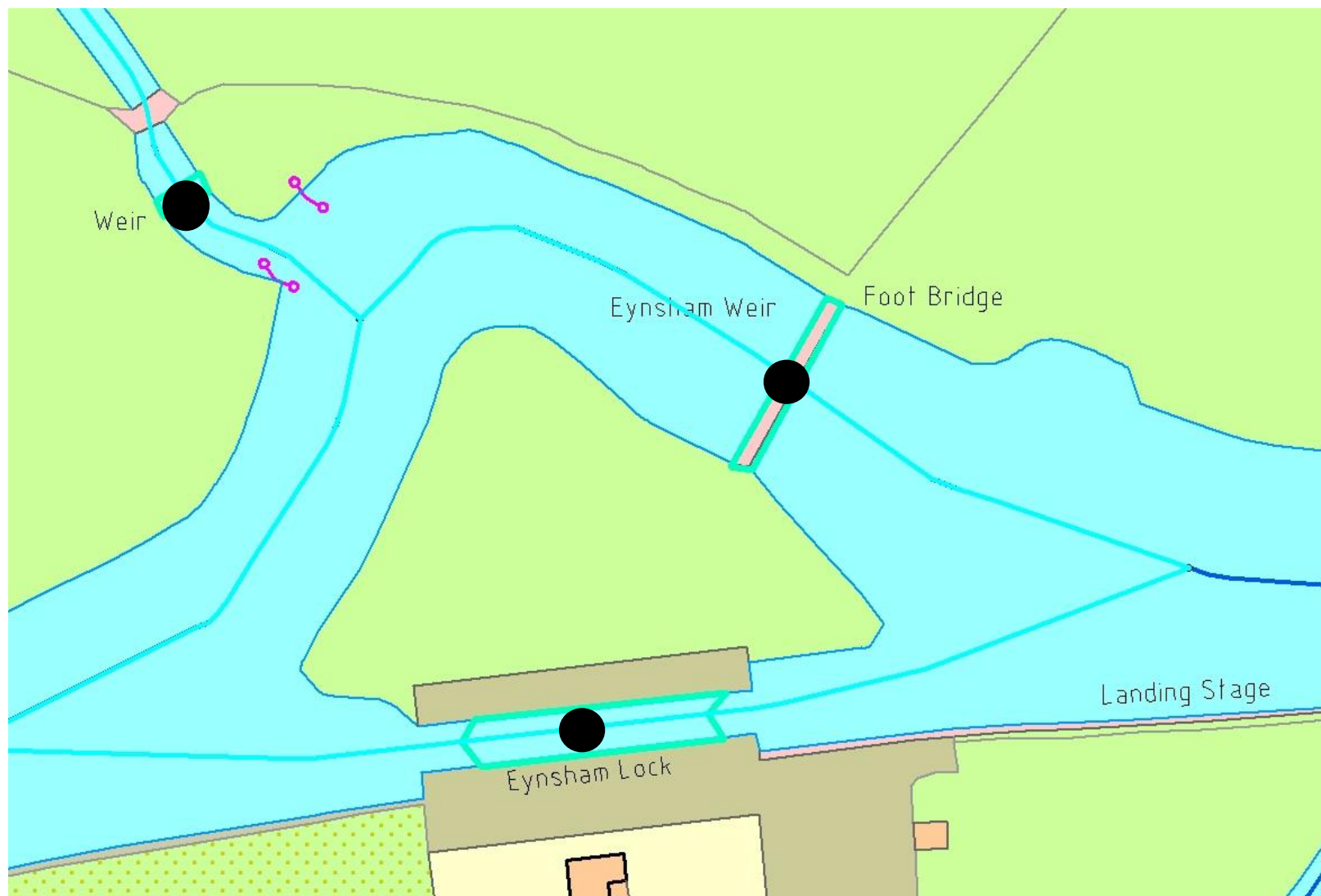




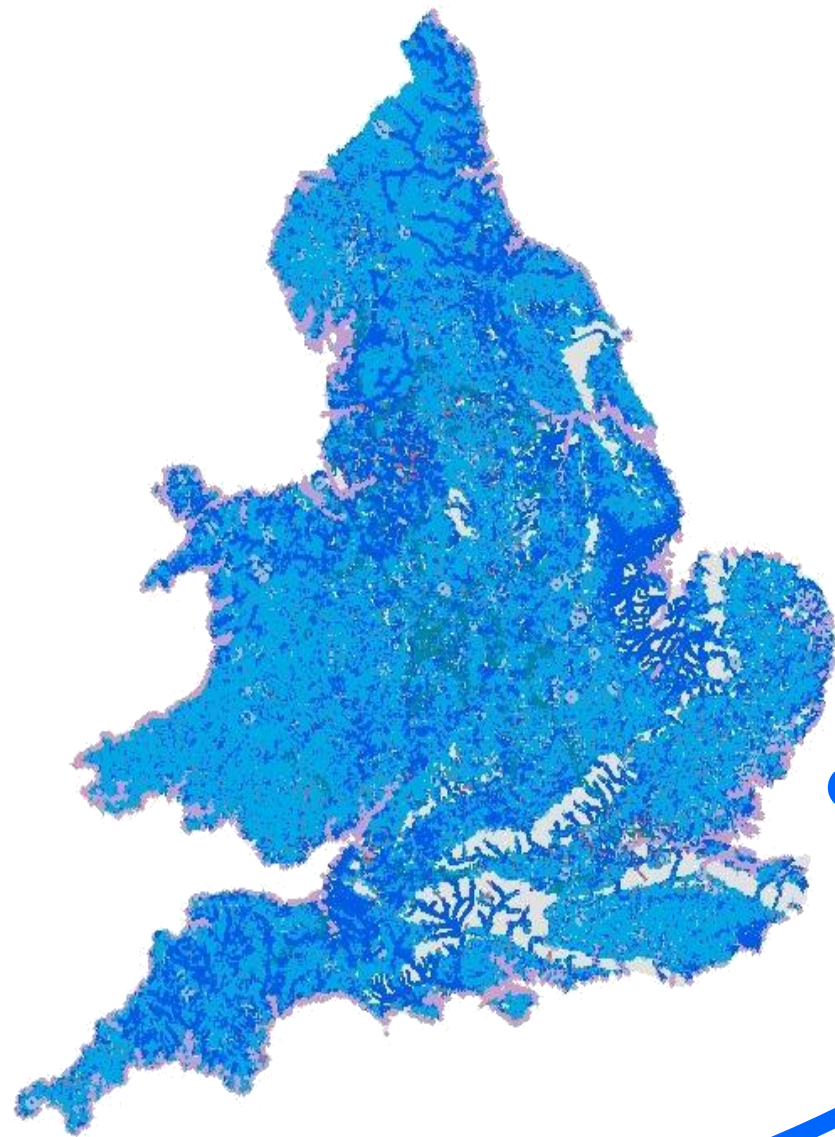
- Flood Defence - Rivers by Subreaches at 1:10,000 - WA
- GQA\_network\_050k
- rivers\_50k
- Rivers\_250k



- Sealed Main River - April 2009
- Flood Defence - Rivers by Subreaches at 1:10,000 - WA
- GQA\_network\_050k
- rivers\_50k
- Rivers\_250k







330,000km of River  
Network



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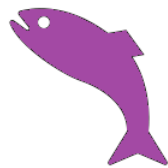
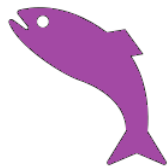


26,000 in-river  
obstructions.

330,000 Km  
River Network  
England &  
Wales

26,000 Water  
obstructions

An Obstruction for  
every 13kms



A potential Obstruction  
Every 13km.



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# Some Obstructions are of more interest than others

- Distance from Head of Tide
- Length of stream opened
- Proportion of catchment opened
- Number of barriers downstream
- Pass ability/porosity by species
- Economic benefits
- Head drop
- Contribution to improving GES/GEP



# Because they were snapped to a network.....

Distance from Head of Tide  
Length of stream opened  
Proportion of catchment opened  
Number of barriers downstream  
Passability/porosity by species  
Economic benefits  
Head drop  
Contribution to improving GES/GEP

- GIS
- GIS
- Spatial analysis
- Spatial analysis
- Local knowledge
- Cost:Benefit
- LIDAR
- WFD database



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## ...we could (semi) automate the process of acquiring data

Distance from Head of Tide  
Length of stream opened  
Proportion of catchment opened  
Number of barriers downstream  
Passability/porosity by species  
Economic benefits  
Head drop  
Contribution to improving GES/GEP

- GIS
- GIS
- Spatial analysis
- Spatial analysis
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- WFD database



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## Except.....

Distance from Head of Tide

Length of stream opened

Proportion of catchment opened

Number of barriers downstream

Passability/porosity by species

Economic benefits

Head drop

Contribution to improving GES/GEP

- GIS
- GIS
- Spatial analysis
- Spatial analysis
- Local knowledge
- Cost:Benefit
- LIDAR
- WFD database

# Prioritisation: A Two Stage Approach

**Stage 1.** Filter 26,000 potential obstructions down to a “useable” number.

- Standardised Process
- identify those with highest geographical significance.
- Use Nationally managed and maintained Datasets and GIS tools

## **Based on criteria such as:**

Distance from Head of Tide

Predicted modeled presence of Eel

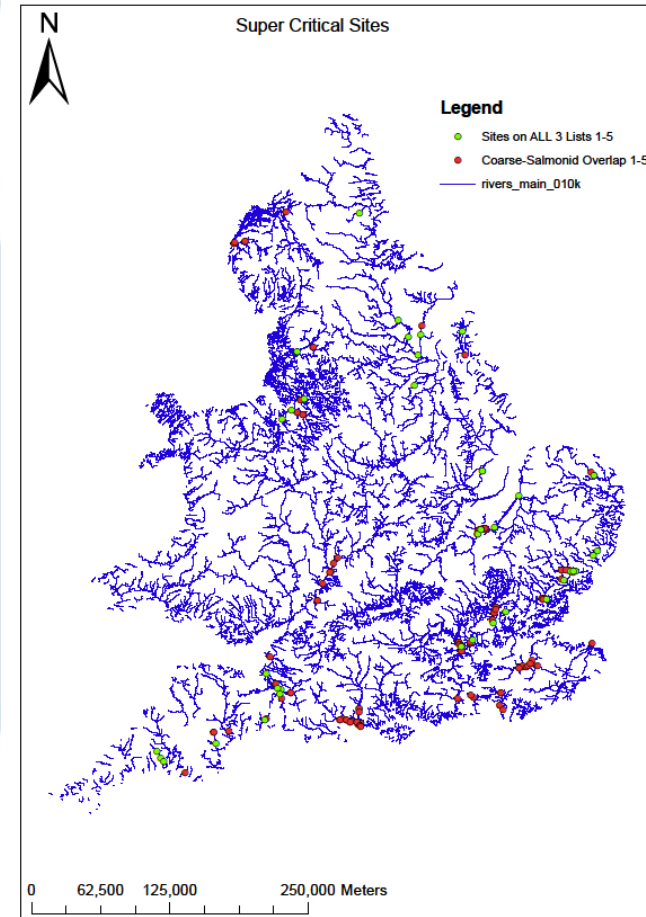
Length of stream opened

Proportion of catchment opened

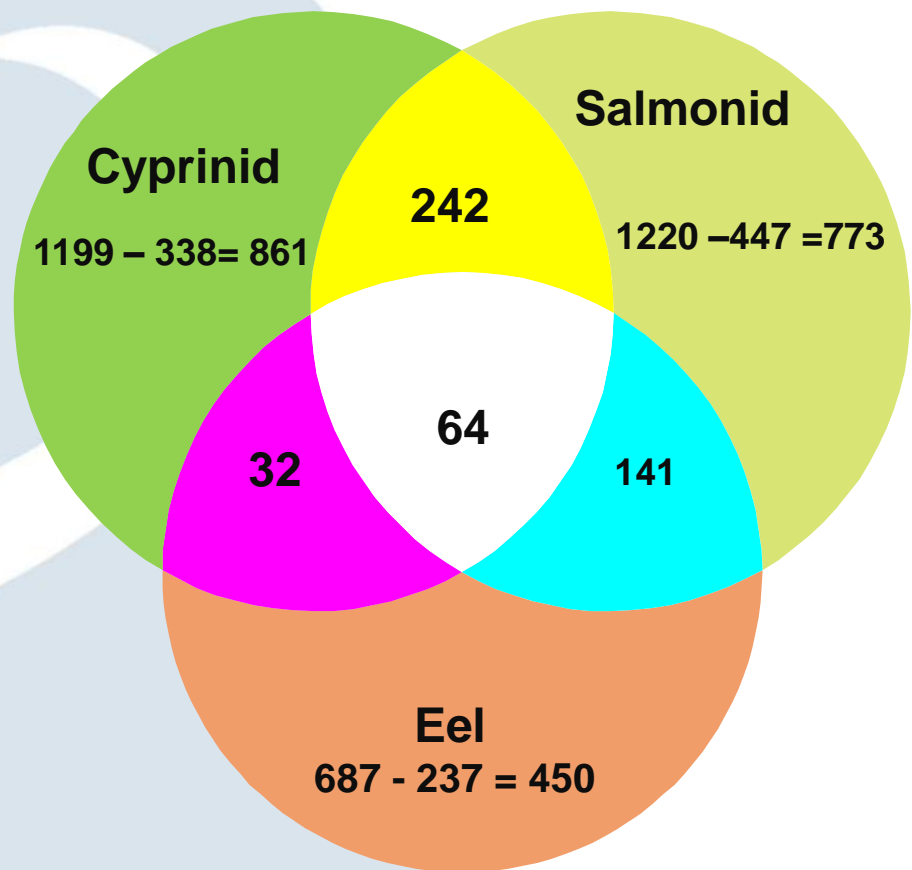
Number of barriers downstream

## **Stage 2. Local Consultation**

“Wise up” the filtered list.



# Critical lists



# Crowd Sourcing Information

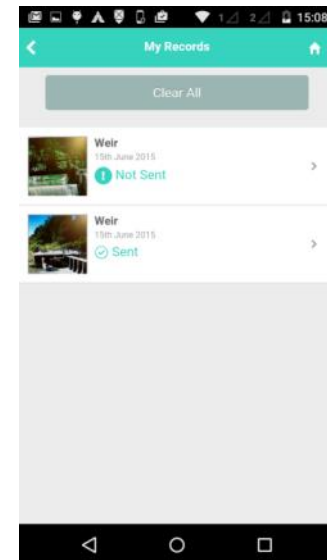
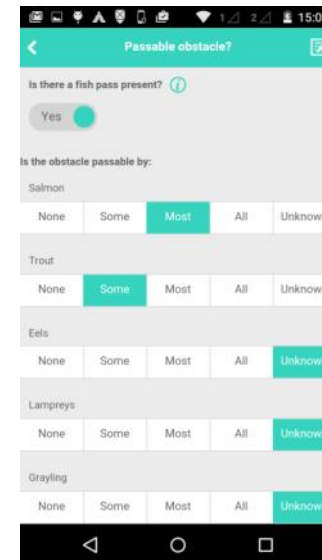
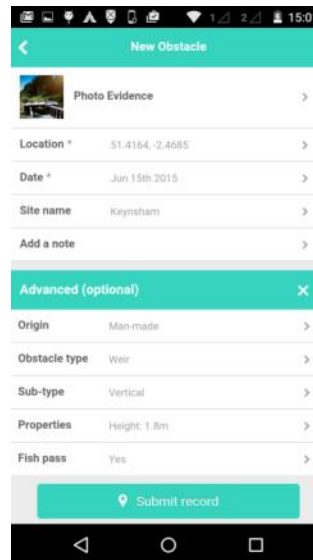
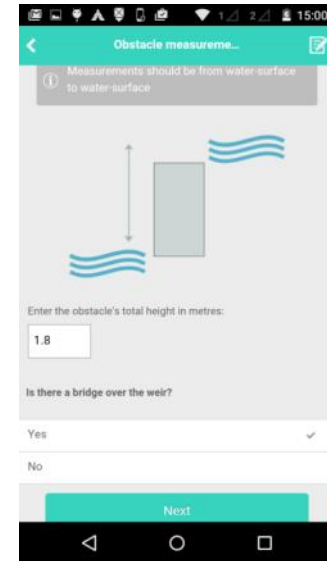
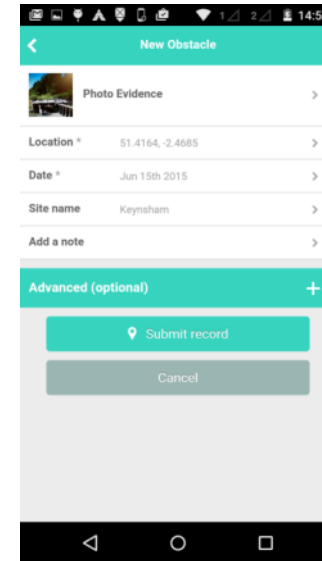
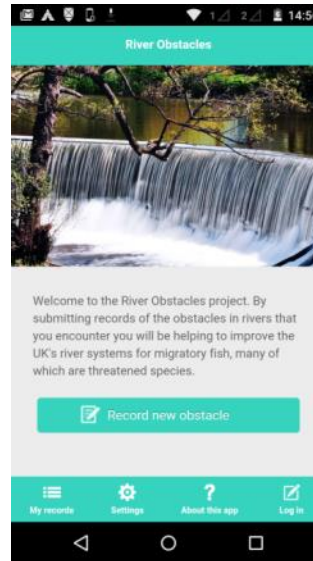


# River Obstacles: Smart Phone App

SEPA and EA  
developed App

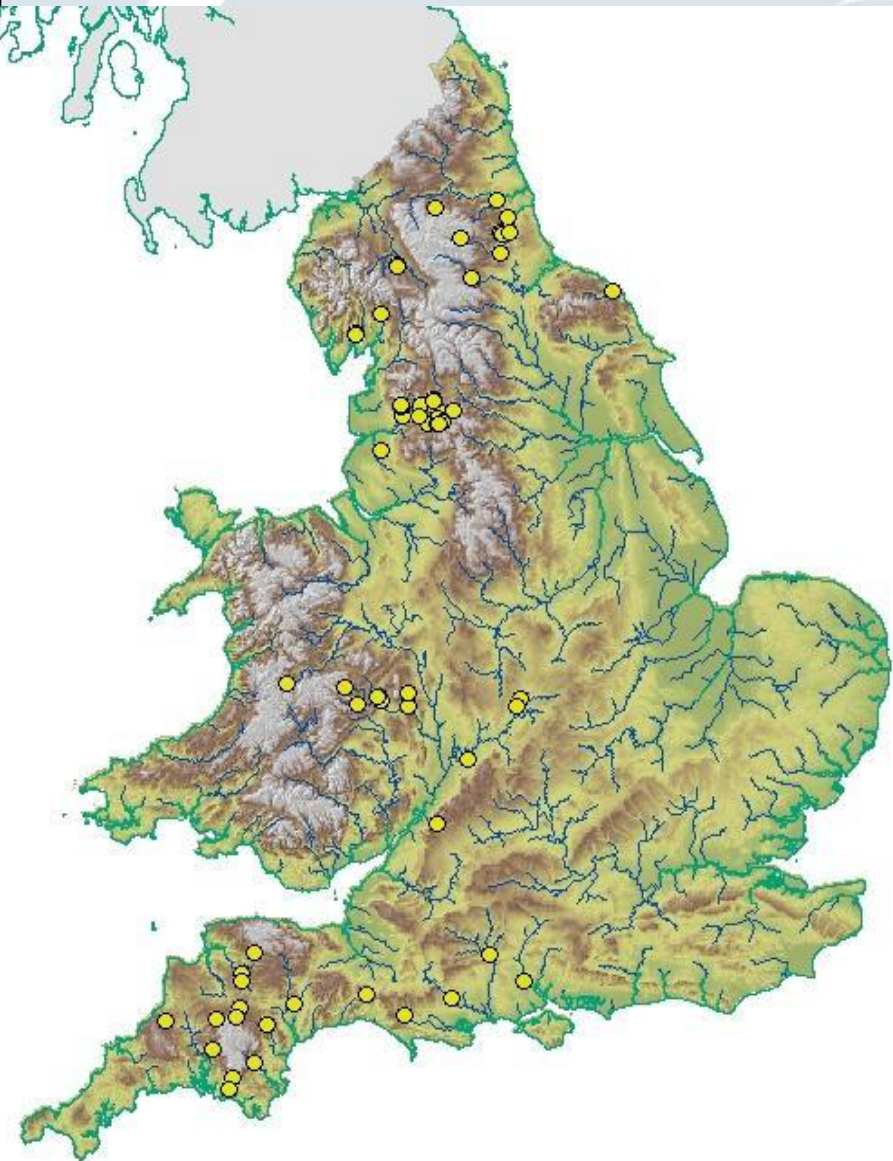
Available on the  
Play Store  
from.....

# Today!



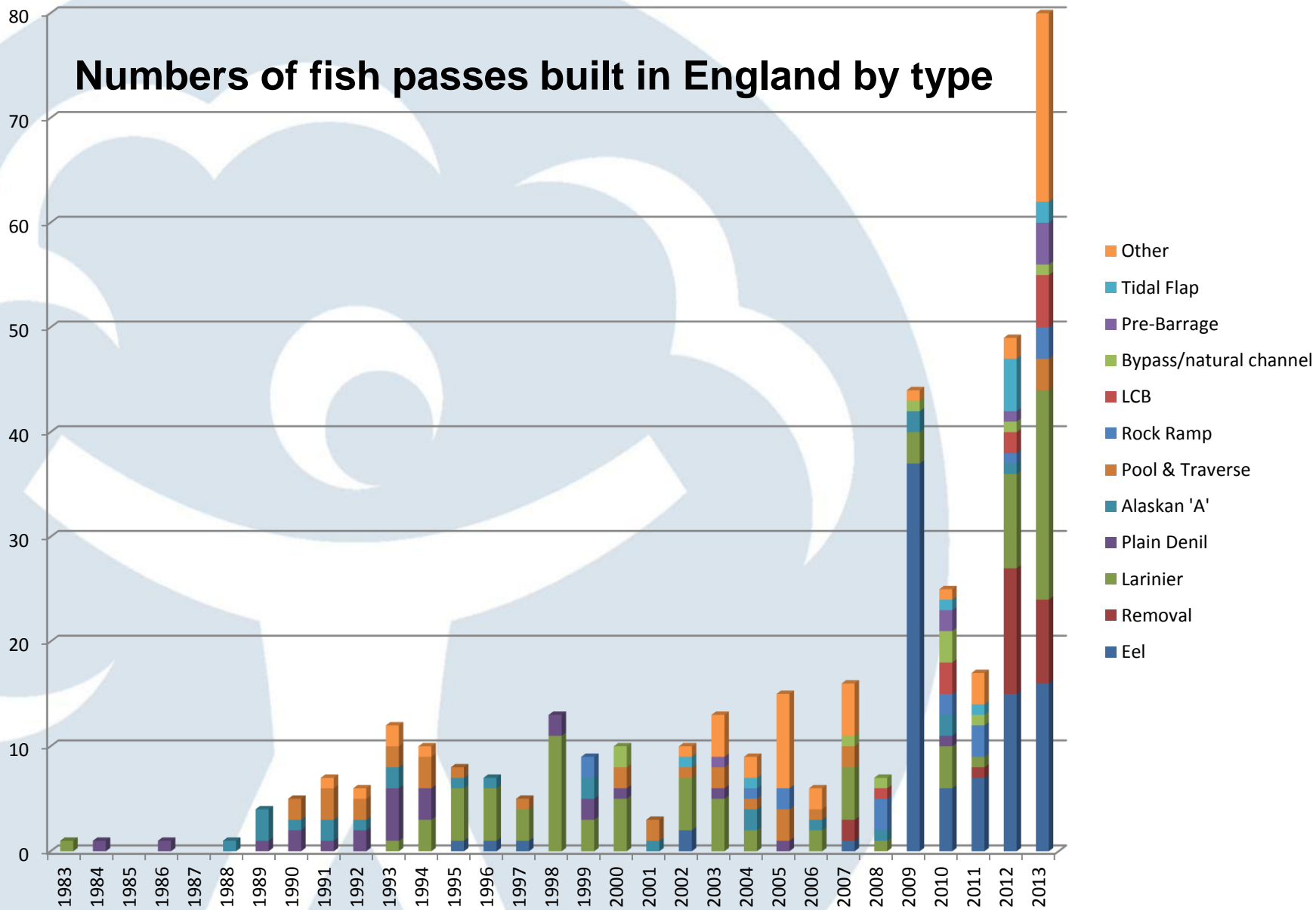


# Improving river connectivity on England's 42 principal salmon rivers



➔ 63 fish passes and easements 2009-2014  
(Includes River Severn catchment which extends into Wales)

# Numbers of fish passes built in England by type



# **Converting Government policy into practice by restoring the Connectivity of English Rivers for the Free Passage of Fish.**

## **Thank You.**

Jim Gregory  
Environment Agency England, UK.  
21<sup>st</sup> June 2015