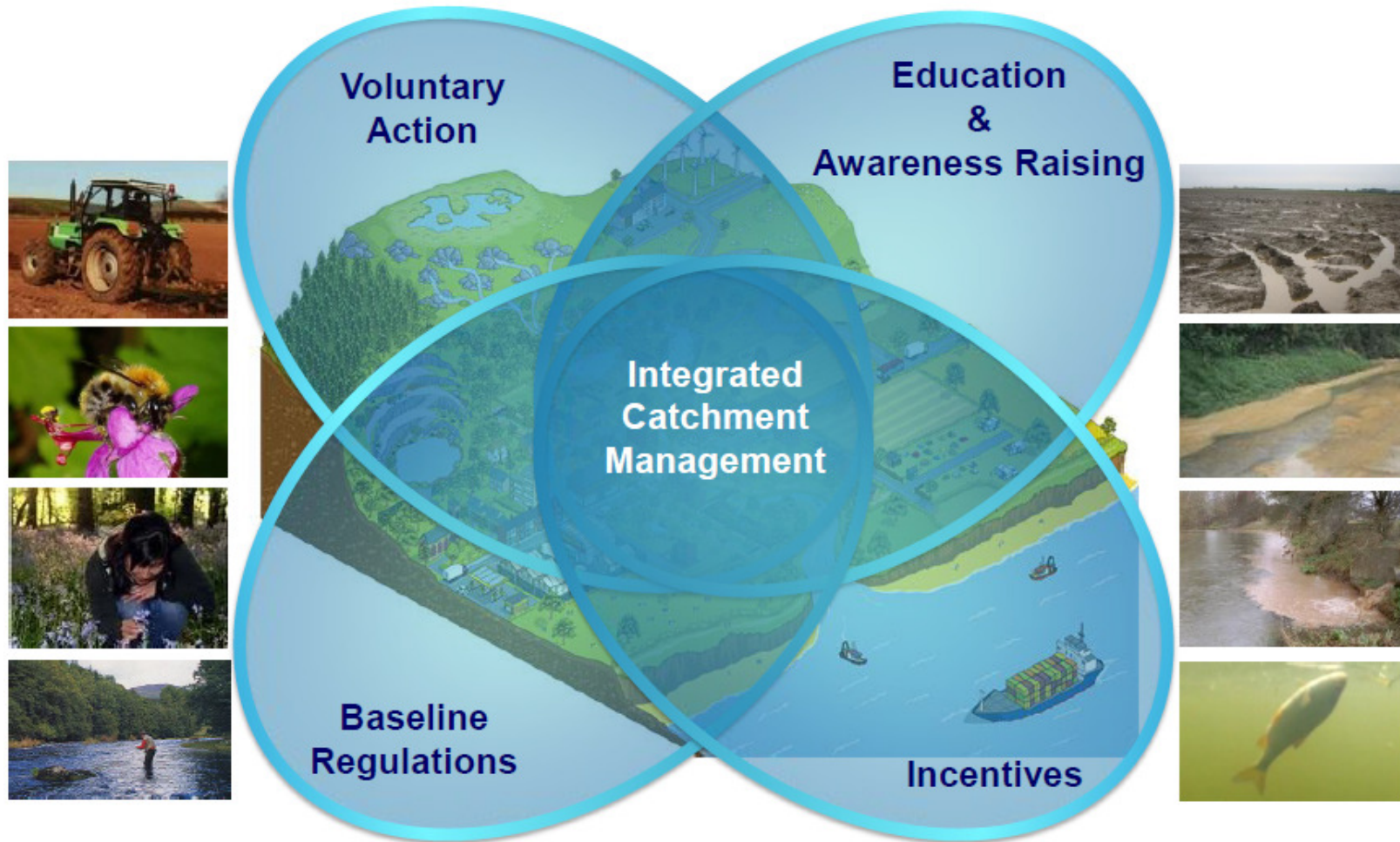


The Catchment Based Approach and Abstraction Update for the Darent and Cray Catchment

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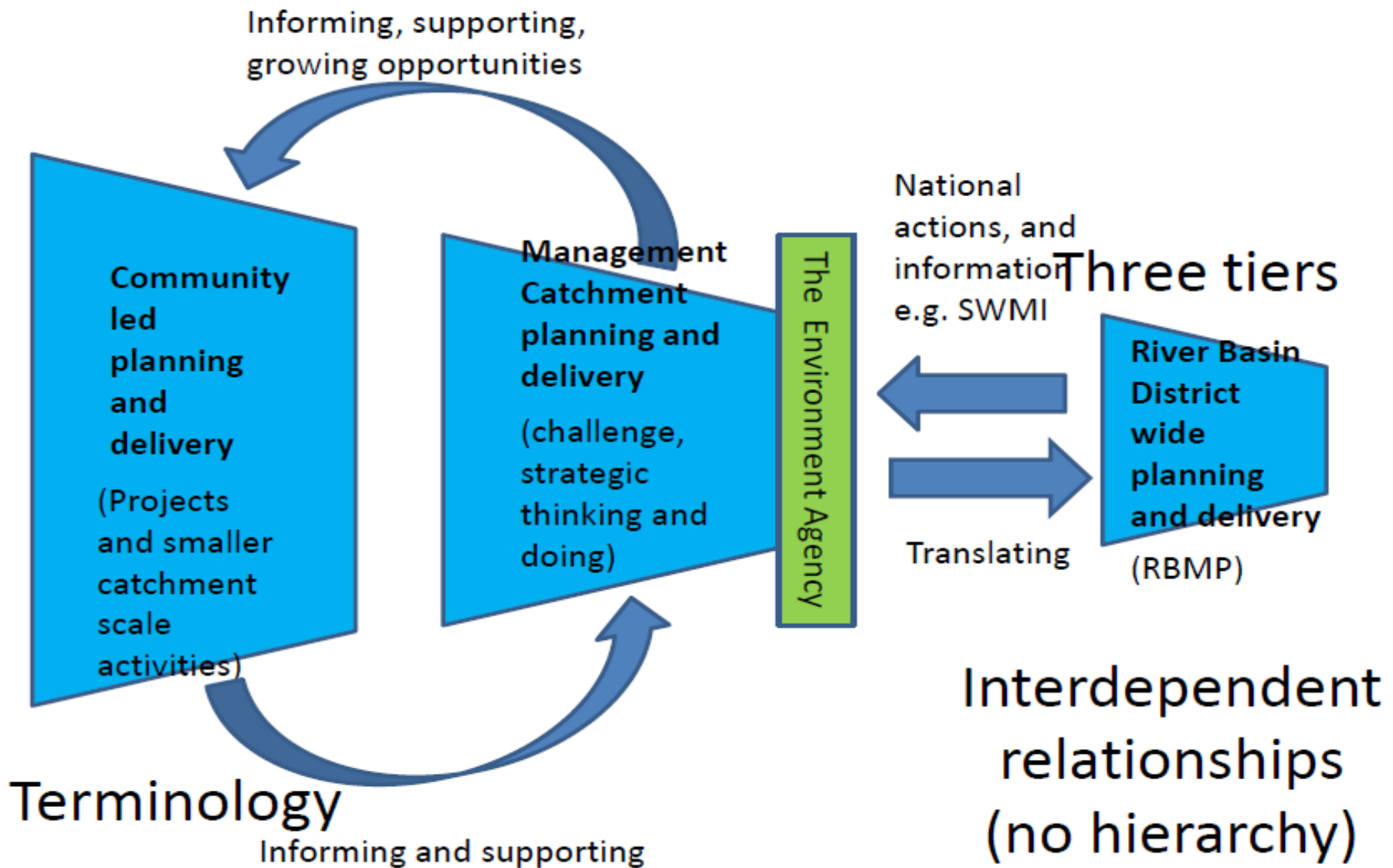
The Catchment Based Approach



Catchment Plans

- ⇒ Content driven by purpose
- ⇒ 'Living', non-statutory documents
- ⇒ Communication and prioritisation tools to drive local action
- ⇒ Cover spatial areas and topics of interest to catchment community
- ⇒ Relevant actions can be referenced in River Basin Management Plan

A vision – the Catchment Based Approach



Sharing expertise across Europe

The screenshot shows a Windows Internet Explorer browser window displaying the RESTORE website. The address bar shows the URL: http://riverwiki.restoreivers.eu/wiki/index.php?title=Case_study%3ALullingstone_Castle. The browser's Favorites bar shows the current page. The website header features the title "Restoring Europe's Rivers" and logos for the Environment Agency, WETLANDS INTERNATIONAL, SYKE, and CRF. A navigation bar includes tabs for "Case study" and "Discussion", and a search bar with "View", "View form", and "History" options. The main content area is titled "Case study:Lullingstone Castle" and includes a "Contents [hide]" list with 8 main sections and 25 sub-sections. A satellite map of the Lullingstone area is displayed, showing the river, surrounding fields, and woods. The map includes a location pin and the coordinates "Location: 51° 21' 32" N, 0° 12' 0" E". The browser's status bar at the bottom shows "Done" and "Internet | Protected Mode: On".

Case study:Lullingstone Castle - RESTORE - Windows Internet Explorer

http://riverwiki.restoreivers.eu/wiki/index.php?title=Case_study%3ALullingstone_Castle

RESTORE

Case study:Lullingstone Castle - RESTORE

Restoring Europe's Rivers

Environment Agency WETLANDS INTERNATIONAL SYKE CRF

Log in / create account

Case study Discussion View View form History Go Search

RESTORE partnership

RESTORE web site

Wiki navigation

Main page

Search case studies

Advanced search

Create a new case study

Recent changes

Help

Toolbox

What links here

Related changes

Special pages

Printable version

Permanent link

Browse properties

Case study:Lullingstone Castle

Contents [hide]

- 1 Project overview
 - 1.1 Project summary
- 2 Catchment and subcatchment
 - 2.1 Catchment
 - 2.2 Subcatchment
- 3 Site
- 4 Project background
 - 4.1 Cost for project phases
- 5 Reasons for river restoration
- 6 Measures
- 7 Monitoring
 - 7.1 Hydromorphological quality elements
 - 7.2 Biological quality elements
 - 7.3 Physico-chemical quality elements
 - 7.4 Any other monitoring, e.g. social, economic
 - 7.5 Monitoring documents
- 8 Image gallery

Location: 51° 21' 32" N, 0° 12' 0" E

Edit location

Map Satellite

Done

Internet | Protected Mode: On

100%



Migrating Towards Better Rivers - *Abstraction*

- The Darent and Cray suffer from low flows, especially in dry years. In the early 1990's the Darent dried in parts.
- Most abstraction is from groundwater and for public water supply through Thames Water and South East Water.
- In 1993 the Darent was included in the 'Top 40 Low Flow Rivers' by the National Rivers Authority.
- In response the Darent Action Plan was developed by the EA and DRiPs in discussion with water companies.
- The EA installed augmentation boreholes to supplement low flows in drier months.

Migrating Towards Better Rivers - *Abstraction*

- Three augmentation wells
- Lullingstone, Eynsford & Farningham
- 4.8MI/d per well
(Combined: 166l/s- 37 gal/s)
- But augmented water leaks back into the aquifer
- Expensive to run and maintain
- Since installation river has not dried



Migrating Towards Better Rivers - *Abstraction*

- ➔ The River Cray has also suffered from low flows. The Restoring Sustainable Abstraction (RSA) plan is looking at where abstractions can be cut back on the Cray.
- ➔ Chalk streams like the Darent and Cray are priority habitats and are important for ecological diversity
- ➔ The River Cray is included in a PhD project through Sheffield University and the Rivers Trusts on restoring urban chalk streams.
- ➔ The completion of the Darent Action Plan would help the chalk stream habitat of the mid Darent to recover.

Migrating Towards Better Rivers - *Abstraction*

- ➔ Current proposals from the EA are for Thames Water Utilities Limited licence changes. If completed, this is the final step in the DAP.
- ➔ Benefits of licence changes are considered to outweigh the costs, however the final decision lies with the Secretary of State, Owen Patterson MP.
- ➔ Following the licence variation proposals that were advertised we have been in discussion with TWUL, the process to reach an agreement is underway and an announcement is due very shortly.

