The River Restoration Centre' UK

Restoration and Recovery: Successes, Lessons Learnt and Challenges for the Future

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theRRC.co.uk

- The River Restoration Centre UK?
- The Cole restoration project 10 years on
- Monitoring where next?
- New developments
The Role of RRC?

- Independent, non-profit
- Support development of river restoration and best-practice river management
- Key activities
  - Information collection and dissemination
  - Conferences (Chester 18 – 20 April, 2007)
  - Advice/project involvement

Restoration project 1995

Aims:
- Demonstrate benefits for integrated catchment management
- Influence river management work
Pre-restoration

Aspiration
HAS THE SCHEME BEEN SUCCESSFUL IN TERMS OF HABITAT DIVERSITY?

Colonisation processes
- Design factors
- Local limitations

Reaches = Control Impact Restored
Results

Hydro-geomorphology

- 60m³ sediment moved 11cumes flow event - 4 months after completion
  - Note: Bank full design - 18 cumecs
- Mostly bank erosion
  1st year -1.2m, 2nd 0.52m
  Control 0.12 -0.03m

Fish

- Chub, Dace, Gudgeon – no salmon

Invertebrate/plant richness

- Restored reach 130 / 36 species
- Control reach 109 / 19 species

Invertebrate abundance

- Restored reach 188 individuals/m²
- Control reach 50 individuals/m²
Physical variability = biological improvement?

- Greater species richness but…
- Much of the distinction between the backwater and other biotopes
- Catchment limitation - 98% of invertebrates found in catchment
- Design limitation - both restoration and monitoring – 75% quadrats in glides
- DS impact - more patchiness (short-term)

Lessons learnt

- Restoration - include riparian habitats (temporary pools, wet woodland)
- Recovery on going – longer term monitoring needed
Monitoring protocol

- Agree trans-disciplinary protocol (size V uncertainty)

Responses (% delegates)

Techniques used – why?
- Industry standard – 29.5%
- Testing new methods – 5.3%
- Easily repeated – 25%
- Cost - 6.25%
Responses - continued

Flexibility of techniques?
- No = 60%

Limitations?
- Cost, time, difficult to replicate, too subjective
- Fish not easy to monitor!

Any other ideas?

Outputs

- Clear objectives/questions
- Project manager
- More technique flexibility (temporal and spatial adaptation)
- Method adaptation for river restoration projects
River management and the Floods Directive

- Flood risk assessment required
- Sediment transfer in the fluvial system - impact on channel morphology - related to defence infrastructure
- The relationship between sediment transfer and in-stream habitat quality
- How best to manage our rivers?

Flood Risk Management Research Consortium

The ‘Tool Box’ to aid river management (work package 8.2 part 2!)

- Stream Power Screening Tool \( Q^{bf/w} \) V S
- River Energy Audit Scheme
- HEC RAS SIAM
- ISIS Sediment
The River Kent, Cumbria

Conclusions

- Grappling with many of the same issues in the UK as here
- EU Policy – a mechanism for restoration and river management
- But we need the scientific evidence
If we don’t rehabilitate river conditions for the Mayfly Nymph
No fish!