

# REFORM

REstoring rivers FOR effective catchment Management

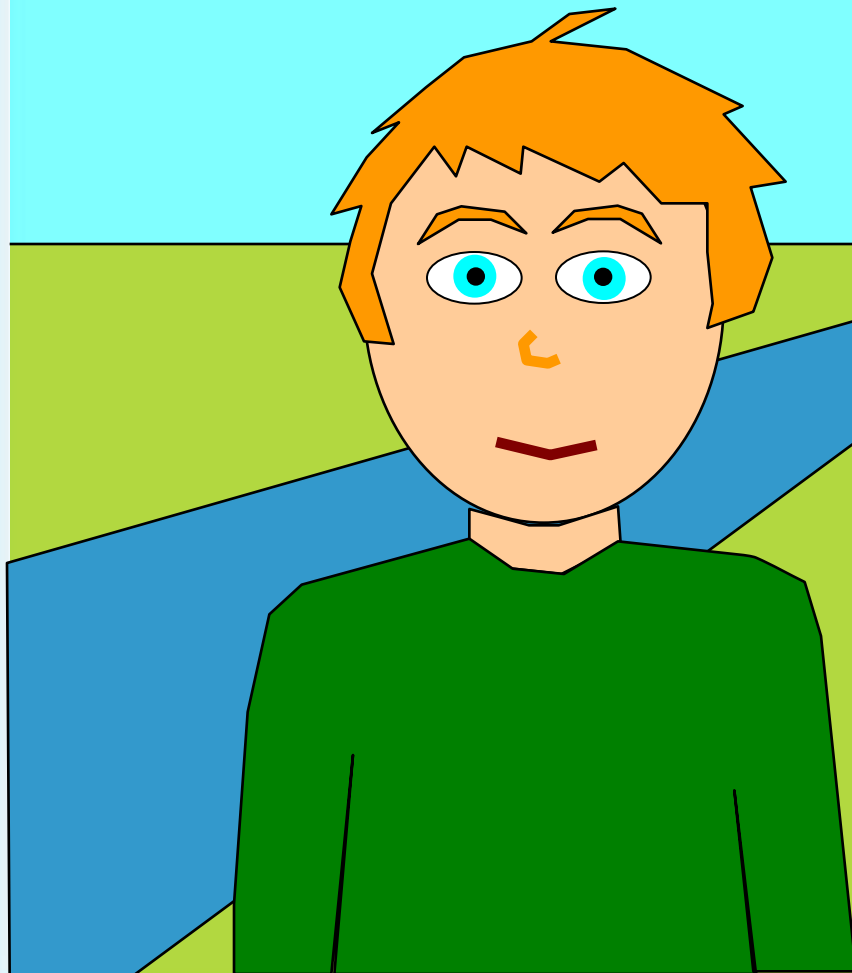


# Knowledge sharing on hydromorphology: The REFORM wiki

Erik Mosselman, Gertjan Geerling, Wenen, September 2013

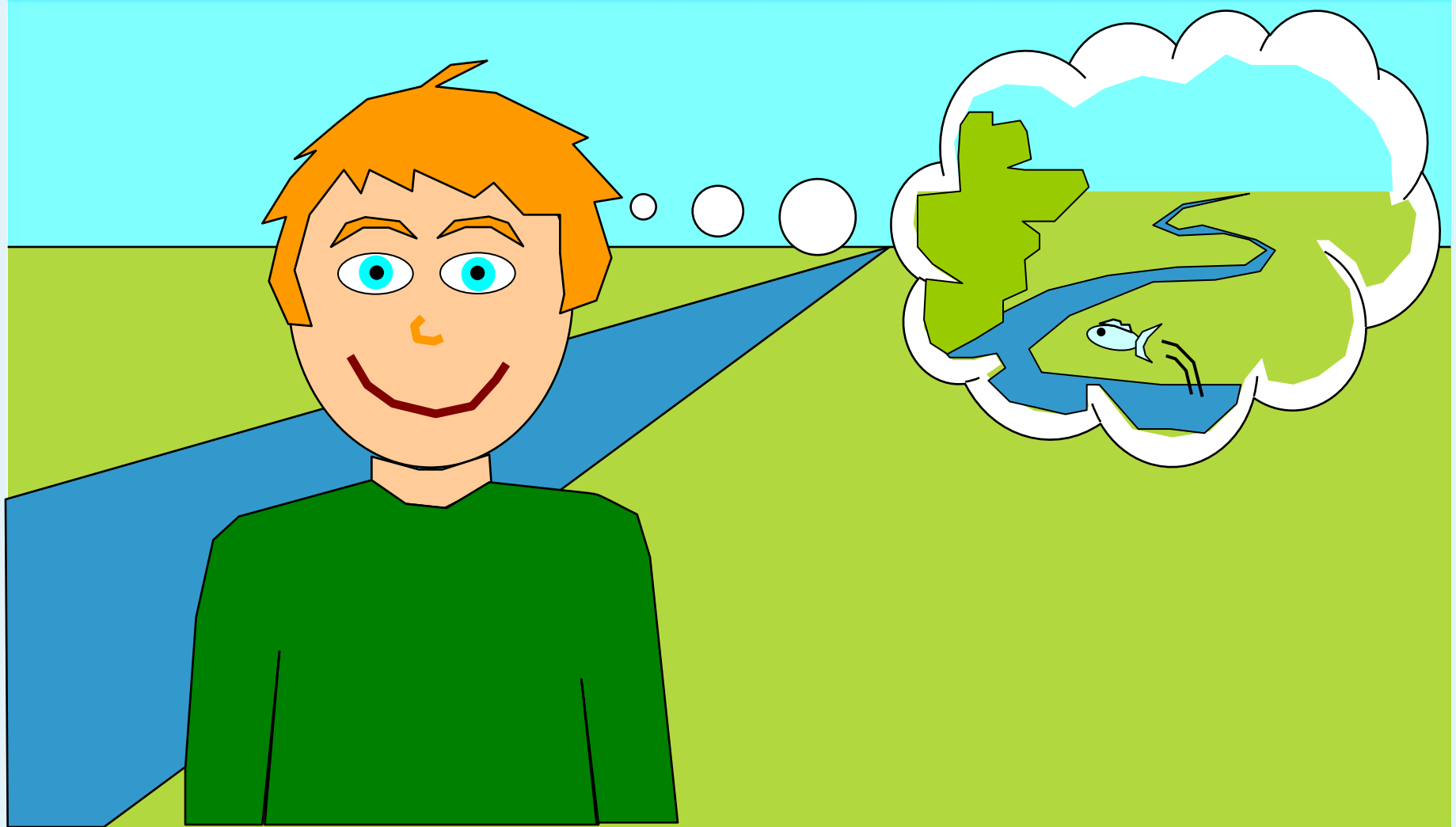
# REFORM

REstoring rivers FOR effective catchment Management

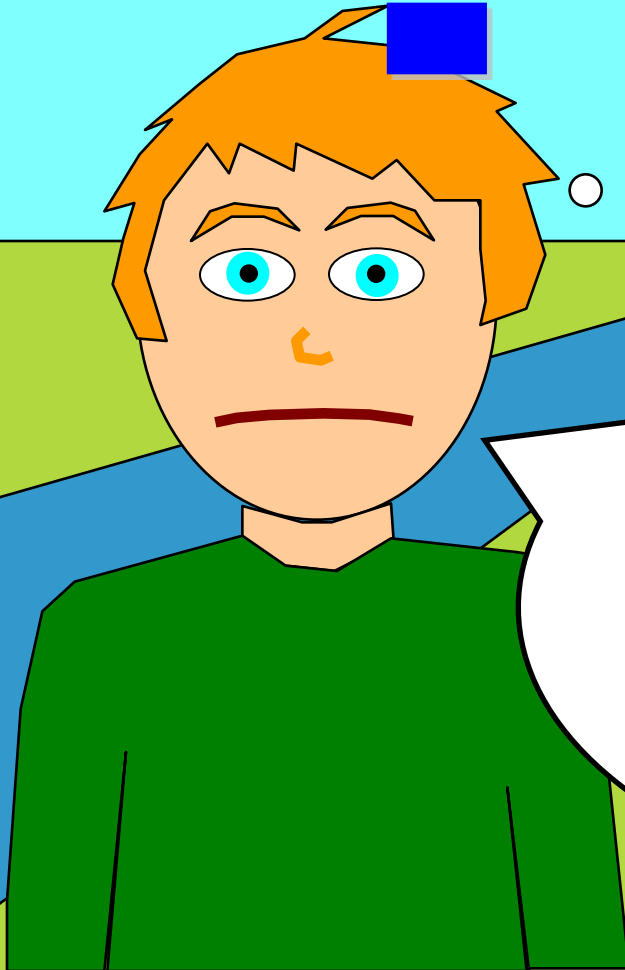


# REFORM

REstoring rivers FOR effective catchment Management



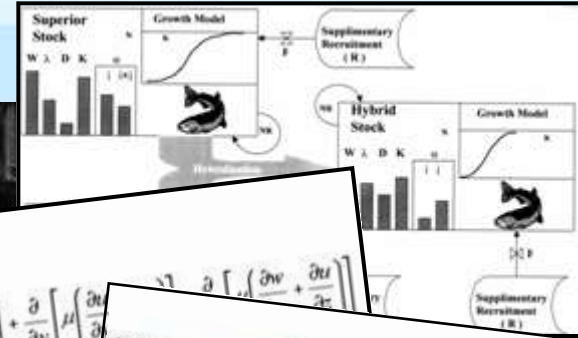
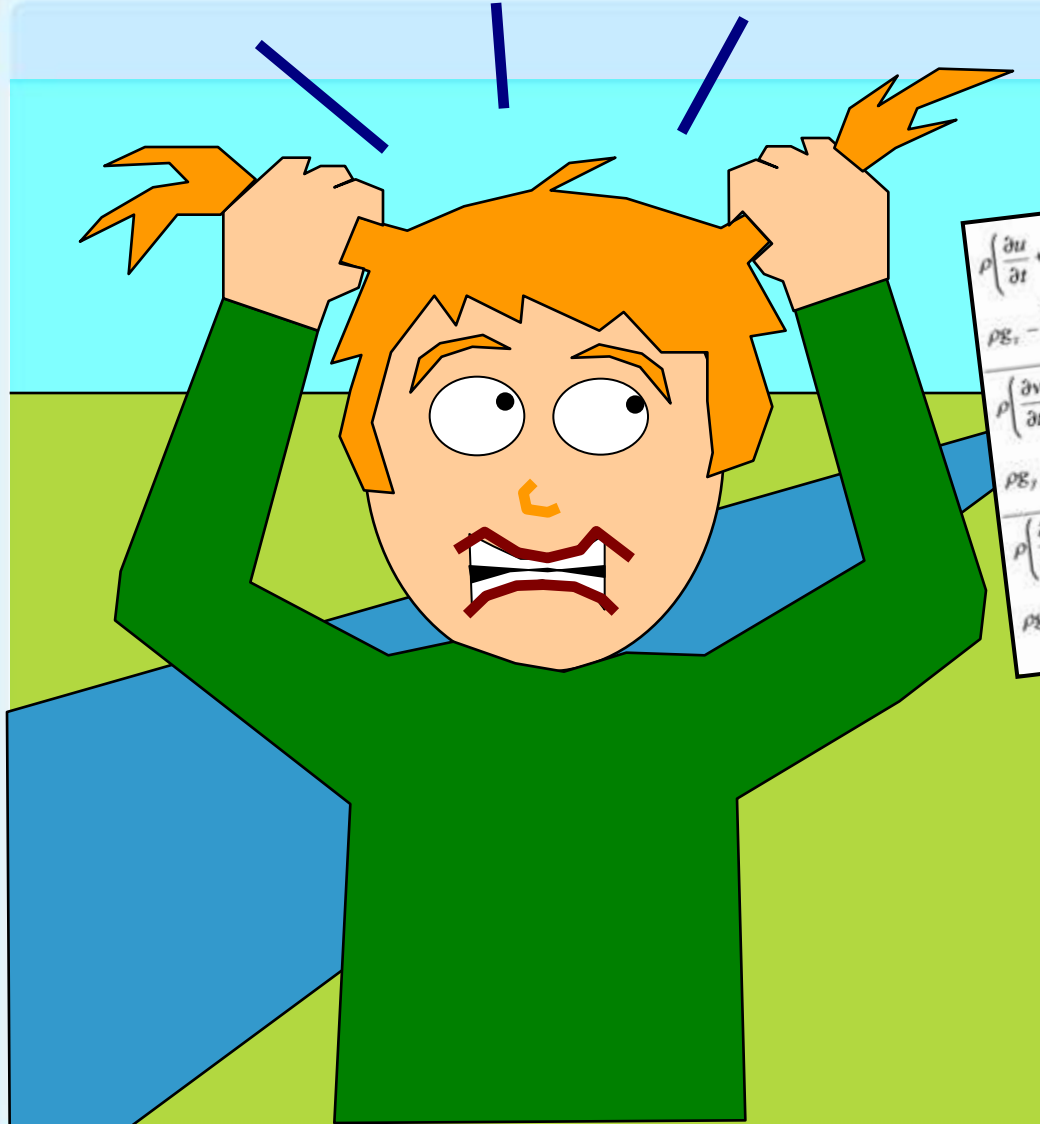
# Q



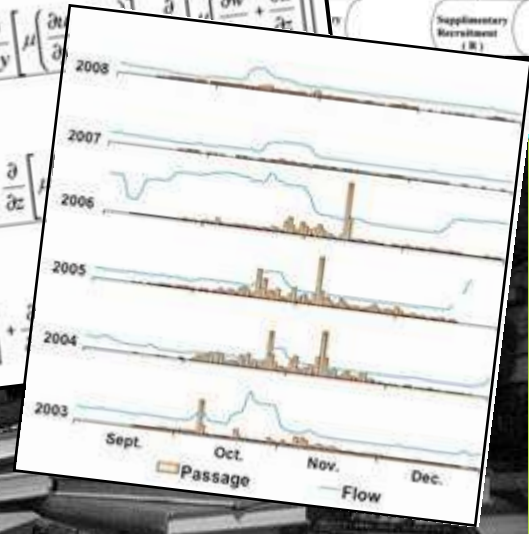
How do we  
restore this river  
successfully?

# REFORM

REstoring rivers FOR effective catchment Management

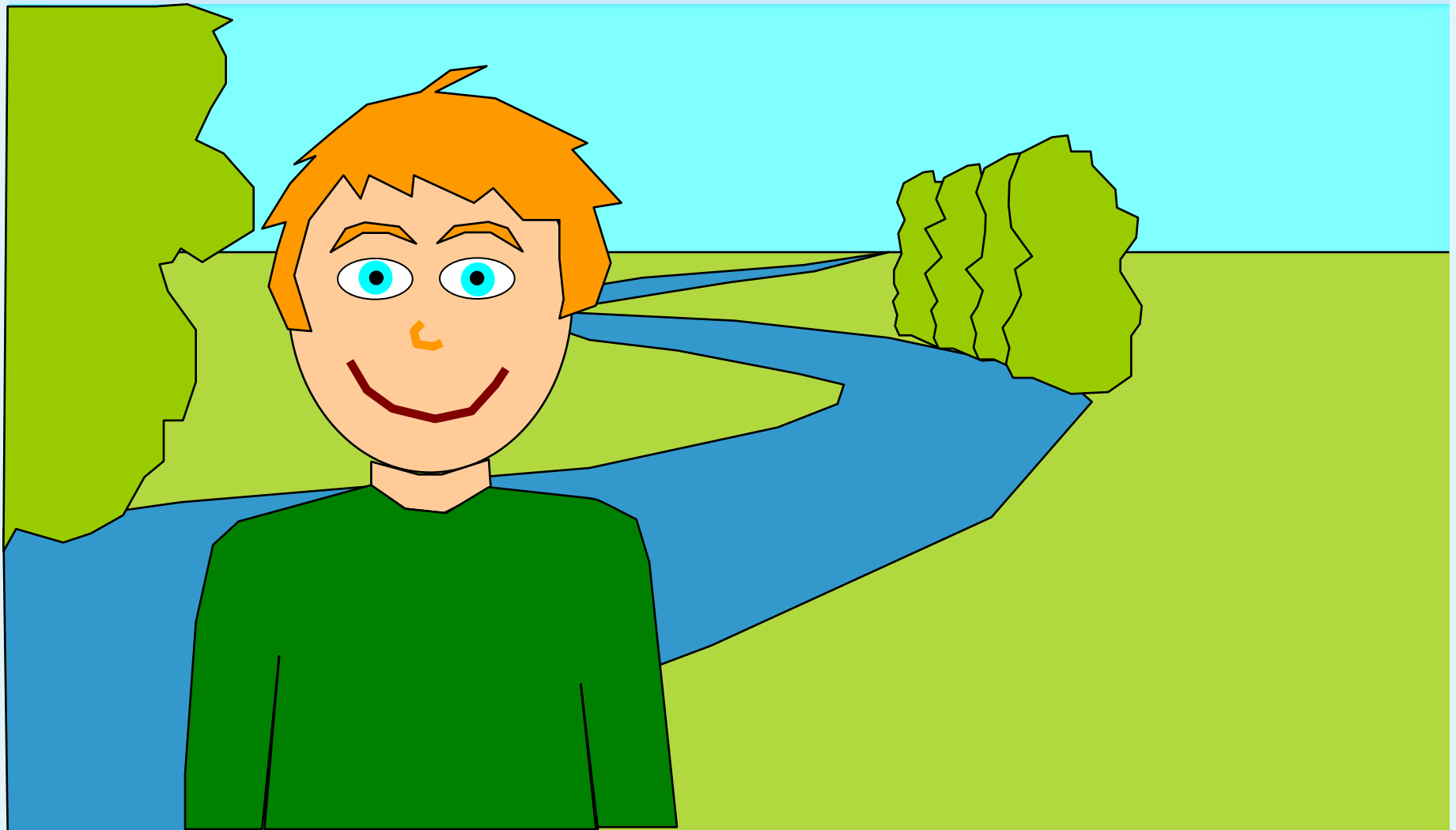


$$\rho \left( \frac{\partial u}{\partial t} + u \frac{\partial u}{\partial x} + v \frac{\partial u}{\partial y} + w \frac{\partial u}{\partial z} \right) =$$
$$\rho g_x - \frac{\partial p}{\partial x} + \frac{\partial}{\partial x} \left[ 2\mu \frac{\partial u}{\partial x} + \lambda \nabla \cdot \mathbf{V} \right] + \frac{\partial}{\partial y} \left[ \mu \left( \frac{\partial u}{\partial y} + \frac{\partial v}{\partial x} \right) \right]$$
$$\rho \left( \frac{\partial v}{\partial t} + u \frac{\partial v}{\partial x} + v \frac{\partial v}{\partial y} + w \frac{\partial v}{\partial z} \right) =$$
$$\rho g_y - \frac{\partial p}{\partial y} + \frac{\partial}{\partial y} \left[ 2\mu \frac{\partial v}{\partial y} + \lambda \nabla \cdot \mathbf{V} \right] + \frac{\partial}{\partial x} \left[ \mu \left( \frac{\partial u}{\partial y} + \frac{\partial v}{\partial x} \right) \right]$$
$$\rho \left( \frac{\partial w}{\partial t} + u \frac{\partial w}{\partial x} + v \frac{\partial w}{\partial y} + w \frac{\partial w}{\partial z} \right) =$$
$$\rho g_z - \frac{\partial p}{\partial z} + \frac{\partial}{\partial z} \left[ 2\mu \frac{\partial w}{\partial z} + \lambda \nabla \cdot \mathbf{V} \right] + \frac{\partial}{\partial x} \left[ \mu \left( \frac{\partial u}{\partial z} + \frac{\partial w}{\partial x} \right) \right] + \frac{\partial}{\partial y} \left[ \mu \left( \frac{\partial v}{\partial z} + \frac{\partial w}{\partial y} \right) \right]$$

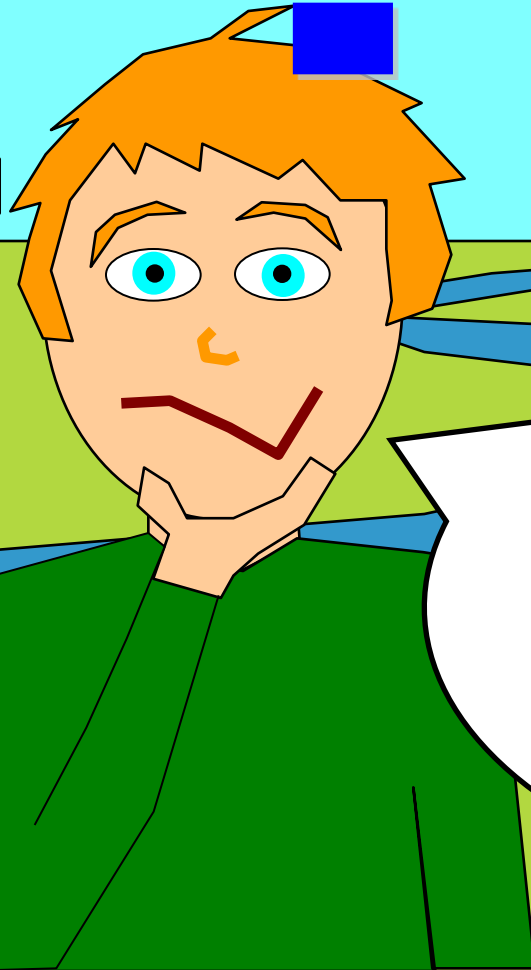


# REFORM

REstoring rivers FOR effective catchment Management



# Q



How can other  
river managers  
benefit from our  
experiences?

# REFORM

REstoring rivers FOR effective catchment Management





## Interaction with end-users

### Communication & Dissemination Strategy

End-user groups: policy makers, practitioners, scientists

#### Standard

- Website, Newsletters (2/yr), Policy Briefs (3)

#### Advanced

- WIKI linking theory to practice and experience
- Interactive preparation of end-user workshop
- Interaction with ECOSTAT

#### Events

- interactive stakeholder workshop (Feb 2013)
- local workshops in case study catchments (tbd)
- summer school (2015)
- final conference (2015)



## Knowledge sharing

### Peer-reviewed publications

- for scientists only

### Project reports

- poorly traceable
- in national languages

### Wiki: web-based knowledge management system

- open access
- web-based translation facilities
- link between science and practice

**Wikipedia proves that it works**

## Structure

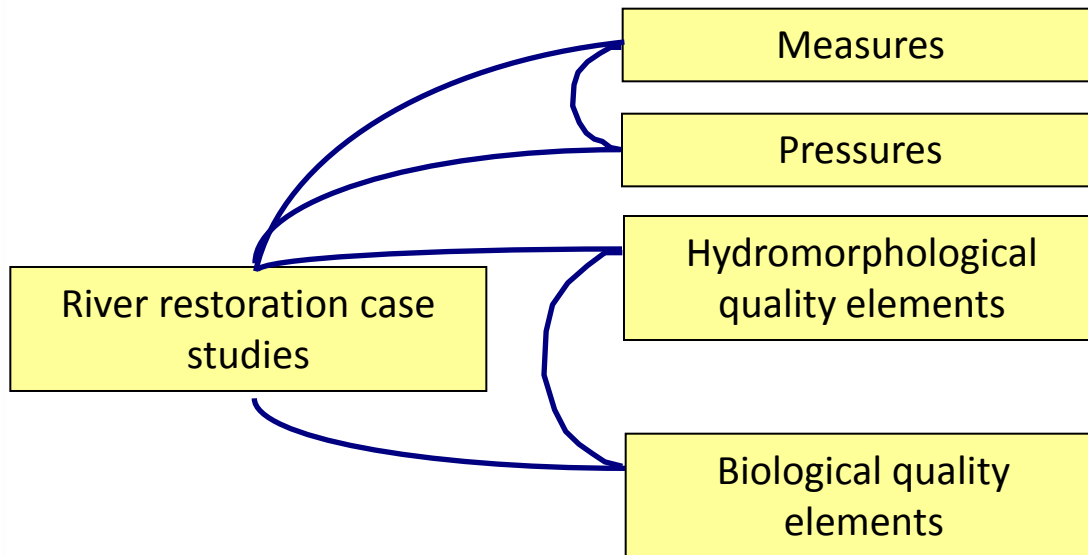
### Multilevel structure for tracing relevant information

- *Geographically:*
  - Locations in Google Maps
- *Thematically:*
  - Database:
    - essential facts
    - filter for relevant case studies in Google Maps
    - **live links**
  - **Wiki:** information according to standardized table of contents
  - **Links** to internal and external background information

## Structure: live links in FORECASTER wiki

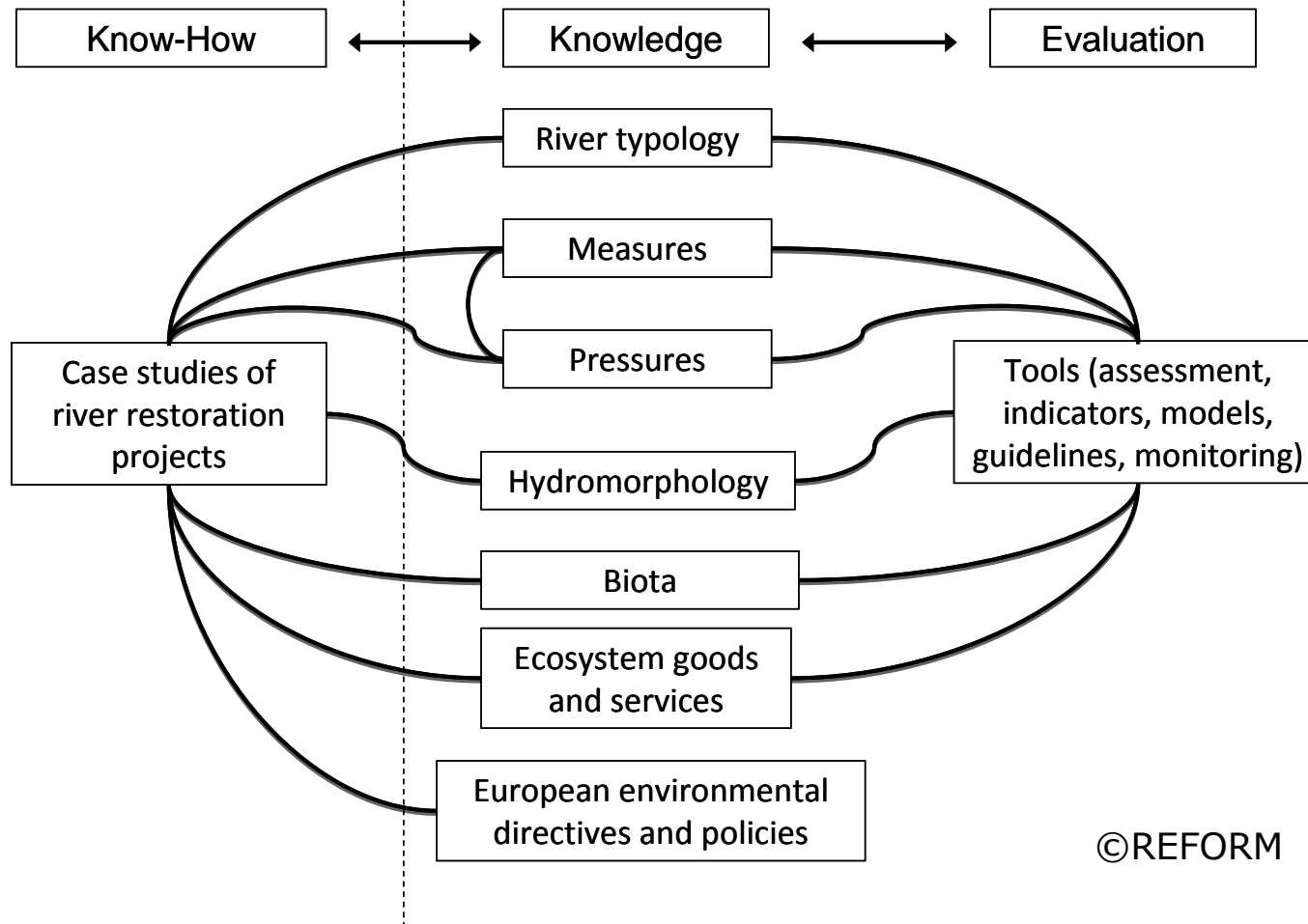
Know-how

Knowledge



## REFORM GEO-WIKI

### Open source web-based knowledge management system



# REFORM

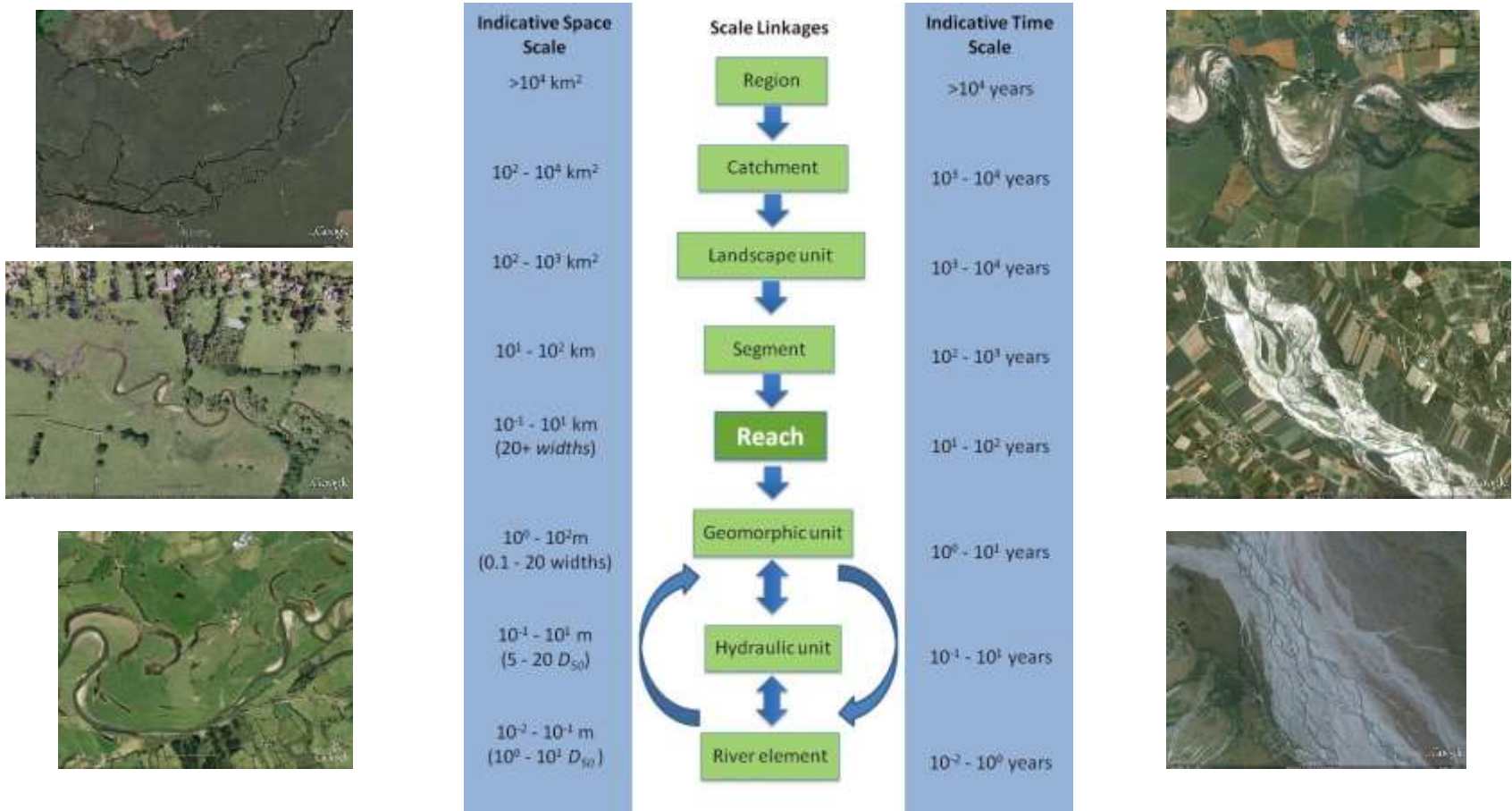
REstoring rivers FOR effective catchment Management



## DEMO WIKI



## Hierarchical process-based HYMO framework that is ecologically relevant



## Further work

### Populating of wiki with content

- interim results in March-April to support 2nd RBMPs
- subsequently as deliverables become available

### Development in interaction with end users

- CEDEX, ISPRA, EA, DLG

### Co-operation and tuning with RESTORE wiki

- aim to be complementary

### Wish to discuss wider use of wikis

- added value regarding official information supply by EC and member states
- for WFD implementation (e.g. CIRCABC, WISE)



## Messages to take home

All REFORM deliverables organized in wiki

- reports, papers, tools

Care for post-project hosting

Visit the REFORM wiki online

- <http://wiki.reformrivers.eu>

We welcome your feedback!







*Thanks!*



**REFORM**

REstoring rivers FOR effective catchment Management



# **OFF-LINE DEMO**

## Case studies



## Case studies

### Filter options:

Pressures

Channelisation / cross section alteration

Measures

Reconnect backwaters and wetlands

Evaluation

Select/Unselect Evaluation

Hydo-morphological QE

Select/Unselect Hydo-morphological QE

Biological QE

Select/Unselect Biological QE

Ecosystem Services

Select/Unselect Ecosystem Services

EU directives and policies

Select/Unselect directives and policies

## Case studies

Page

Discussion

Read

View source

View history

Go

Search

### Reform

- Homepage
- REFORM
- River Characterisation
- Pressures
- Measures
- Tools
- Case studies
- Biological Quality
- HYMO Quality
- Ecosystem Services
- EU Directives
- Database
- Related Sites
- Contact Information

### Toolbox

- What links here
- Related changes
- Special pages
- Printable version
- Permanent link

## Gameren

### Gameren

Change Map size





## Case studies

### Key features of the case study

#### Site description



View on side channel set of Floodplain "Gameren", downstream direction. Photo: Rijkswaterstaat (NL)

Under the authority of the Ministry of Transport, Public Works and Water Management (Eastern Netherlands division), the Institute for Inland Water Management and Waste Water Treatment RIZA executed a monitoring program on secondary channels in the Gamerensche Waard. During

the period 1996-2002 a broad and complete program was executed with three main objectives: 1) evaluation of the desired effects, 2) assessment of the undesirable side-effects (risks) and 3) increase of the knowledge about secondary channels.

In the period 1995-1999 three secondary channels were excavated in the Gamerensche Waard along the river Waal (the main side branch of the river Rhine). Regarding the dimensions, these channels are unique for Dutch rivers. These channels are dugged out partly from former agricultural grassland and partly they exists of connected former sand

#### Factsheet: Gameren

##### General

Country	NL
River Name	Waal
Site Name	Gameren

##### River Characterisation

##### River typology

Location (Lat Lon)	51.8062000807445, 5.20940780639648
Altitude	lowland: < 200 m
Catchment area	very large: > 10000 km <sup>2</sup>
Geology	Calcareous
National code/ River type name	R7

##### Hydromorphological quality elements

- [River depth and width variation](#)
- [Structure of the riparian zone](#)

##### Biological quality elements

- [Phytoplankton](#)
- [Macrophytes and phytobenthos](#)

## Case studies

Extra background information

References

- [Evaluatie nevengeulen Gamberensche Waard \(Dutch with summary in English\)](#)
- [Powerpoint \(English\) Habitat Evaluation Case study Gameraen](#)
- [Grift, R. E., Buijse, A. D., Van Densen, W. L. T., Machiels, M. A. M., Kranenbarg, J., Klein Breteler, J. G. P. and Backx, J. J. G. M. \(2003\), Suitable habitats for 0-group fish in rehabilitated floodplains along the lower River Rhine. River Research and Applications, 19: 353–374 !\[\]\(c6a8736a601a632e2c96605cf66055ed\_img.jpg\) \(language: english, abstract\)](#)

Related Measures

- [Lower river banks or floodplains to enlarge inundation and flooding](#)
- [Reconnect backwaters and wetlands](#)
- [Adjust land use to develop riparian vegetation](#)

Related Pressures

- [Artificial barriers upstream from the site](#)
- [Channelisation / cross section alteration](#)
- [Alteration of riparian vegetation](#)
- [Embankments, levees or dikes](#)
- [Alteration of instream habitat](#)

Categories: [Case studies](#) | [River depth and width variation](#) | [Structure of the riparian zone](#) | [Phytoplankton](#)  
| [Macrophytes and phytobenthos](#) | [Benthic invertebrates](#) | [Fish](#)



## Case studies

### LOGIN

Enter e-mail address

Enter password

REMEMBER ME

NOT REGISTERED ?  
FORGOTTEN PASSWORD ?  
INSTITUTIONAL LOGIN >

Home > Earth Sciences > Hydrological Sciences > River Research and Applications > Vol 19 Issue 4 > Abstract

### JOURNAL TOOLS

-  Get New Content Alerts
-  Get RSS feed
-  Save to My Profile
-  Get Sample Copy
-  Recommend to Your Librarian

### JOURNAL MENU

Journal Home

### FIND ISSUES

Current Issue  
All Issues

### FIND ARTICLES

Early View

### GET ACCESS

Subscribe / Renew

### FOR CONTRIBUTORS

OnlineOpen

## River Research and Applications

### Research Article

### Suitable habitats for 0-group fish in rehabilitated floodplains along the lower River Rhine

R. E. Griff<sup>1</sup>\*, A. D. Buijse<sup>2</sup>,  
W. L. T. Van Densen<sup>1</sup>, M. A. M. Machiels<sup>1</sup>,  
J. Kranenbarg<sup>1</sup>, J. G. P. Klein Breteler<sup>3</sup>,  
J. J. G. M. Backx<sup>2</sup>

Article first published online: 7 MAR 2003

DOI: 10.1002/rra.711

Copyright © 2003 John Wiley & Sons, Ltd.

### Issue



River Research and  
Applications

Volume 19, Issue 4, pages  
353–374, July/August 2003

### Additional Information (Show All)

[How to Cite](#) | [Author Information](#) | [Publication History](#) | [Funding Information](#)

### SEARCH

In this issue

[Advanced >](#) [Saved Searches >](#)

### ARTICLE TOOLS

-  Get PDF (479K)
-  Save to My Profile
-  E-mail Link to this Article
-  Export Citation for this Article
-  Get Citation Alerts
-  Request Permissions

 Share |   

## Tools

Category

Discussion

Read

View source

View history

Go

Search

### Reform

- ♦ Homepage
- ♦ REFORM
- ♦ River Characterisation
- ♦ Pressures
- ♦ Measures
- ♦ Tools
- ♦ Case studies
- ♦ Biological Quality
- ♦ HYMO Quality
- ♦ Ecosystem Services
- ♦ EU Directives
- ♦ Database
- ♦ Related Sites
- ♦ Contact Information

### Toolbox

- ♦ What links here
- ♦ Related changes
- ♦ Special pages
- ♦ Printable version
- ♦ Permanent link

## Category:Tools

General tools page.

Will contain links to database tool categories, such as:

- [Hydraulical models](#)
- [Hydromorphological assessment methods](#)

### Subcategories

This category has the following 2 subcategories, out of 2 total.

#### H

- [Hydromorphological assessment methods](#)
- [Hydromorphological models](#)

### Pages in category "Tools"

The following 8 pages are in this category, out of 8 total.

#### E

- [European methods for WFD](#)

#### F

- [Fish longitudinal continuity assessment](#)

#### H

- [Hydrological regime assessment](#)

#### M

- [Morphological assessment](#)

#### P

- [Physical habitat assessment](#)

#### R

- [Riparian habitat assessment](#)

#### T

- [Test model](#)
- [Main Page](#)