

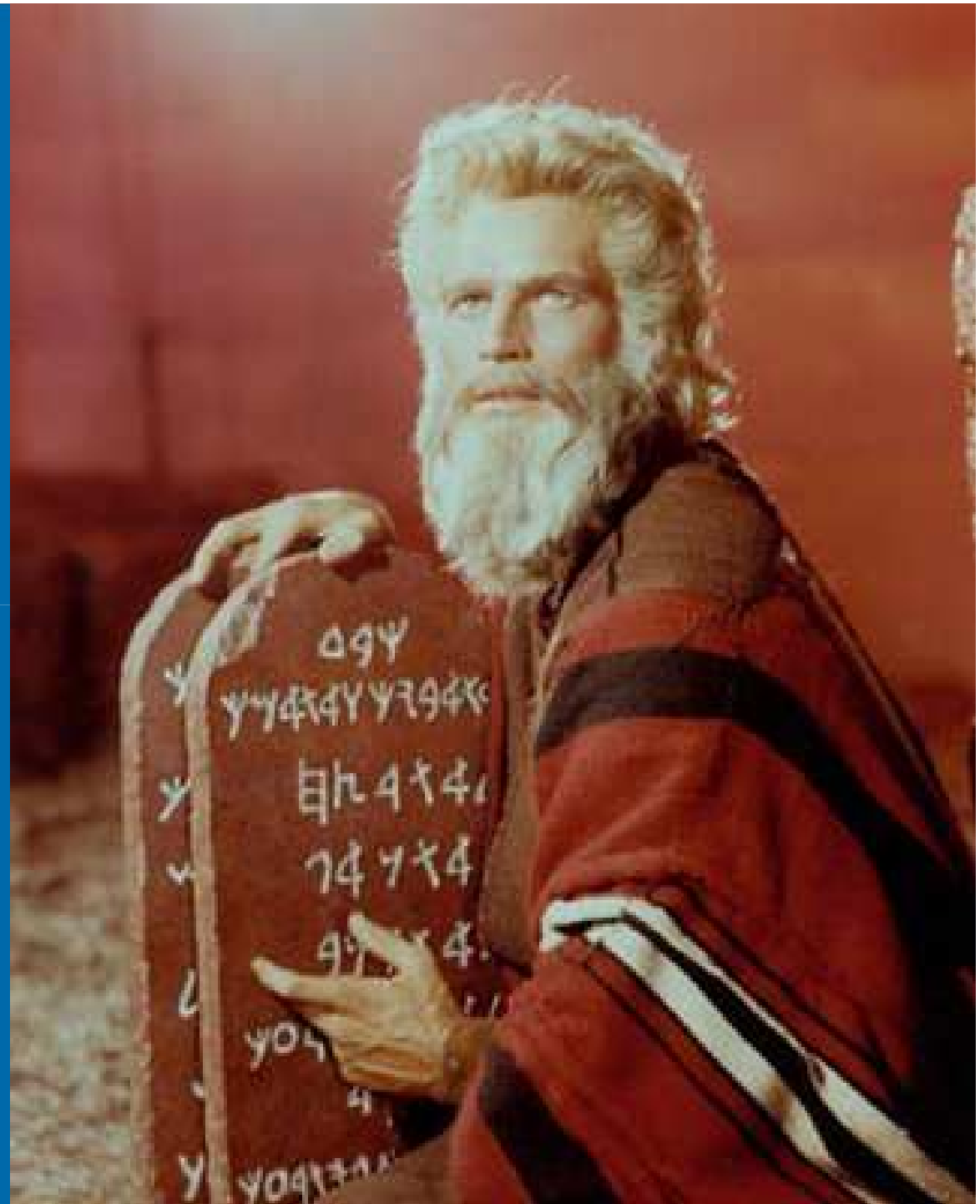
Designation and classification of Artificial and Heavily Modified Waters

David Corbelli & Peter Pollard
United Kingdom

Presentation

- ➔ Designation of A/HMWB
- ➔ Development of ecological potential methodology
- ➔ Implementation of methodology

EU Water Framework Directive





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Welcome to UKTAG - Water Framework Directive Site

The WFD-UKTAG is the United Kingdom Technical Advisory Group (UKTAG) supporting the implementation of the European Community (EC) Water Framework Directive (Directive 2000/60/EC). It is a partnership of the UK environment and conservation agencies. It also includes partners from the Republic of Ireland.

UKTAG was established in 2001 to provide coordinated advice on technical aspects of the implementation of the Water Framework Directive (WFD).

This web-site provides information on:

- [UKTAG](#) and its partners
- UKTAG's [work programme](#)
- UKTAG [guidance, documents and draft working papers](#)
- [Research](#) relevant to the implementation of the WFD
- [Events](#) and current initiatives coordinated by UKTAG or its partner agencies
- [Links](#) to organisations implementing the WFD in the UK, Republic of Ireland and across Europe

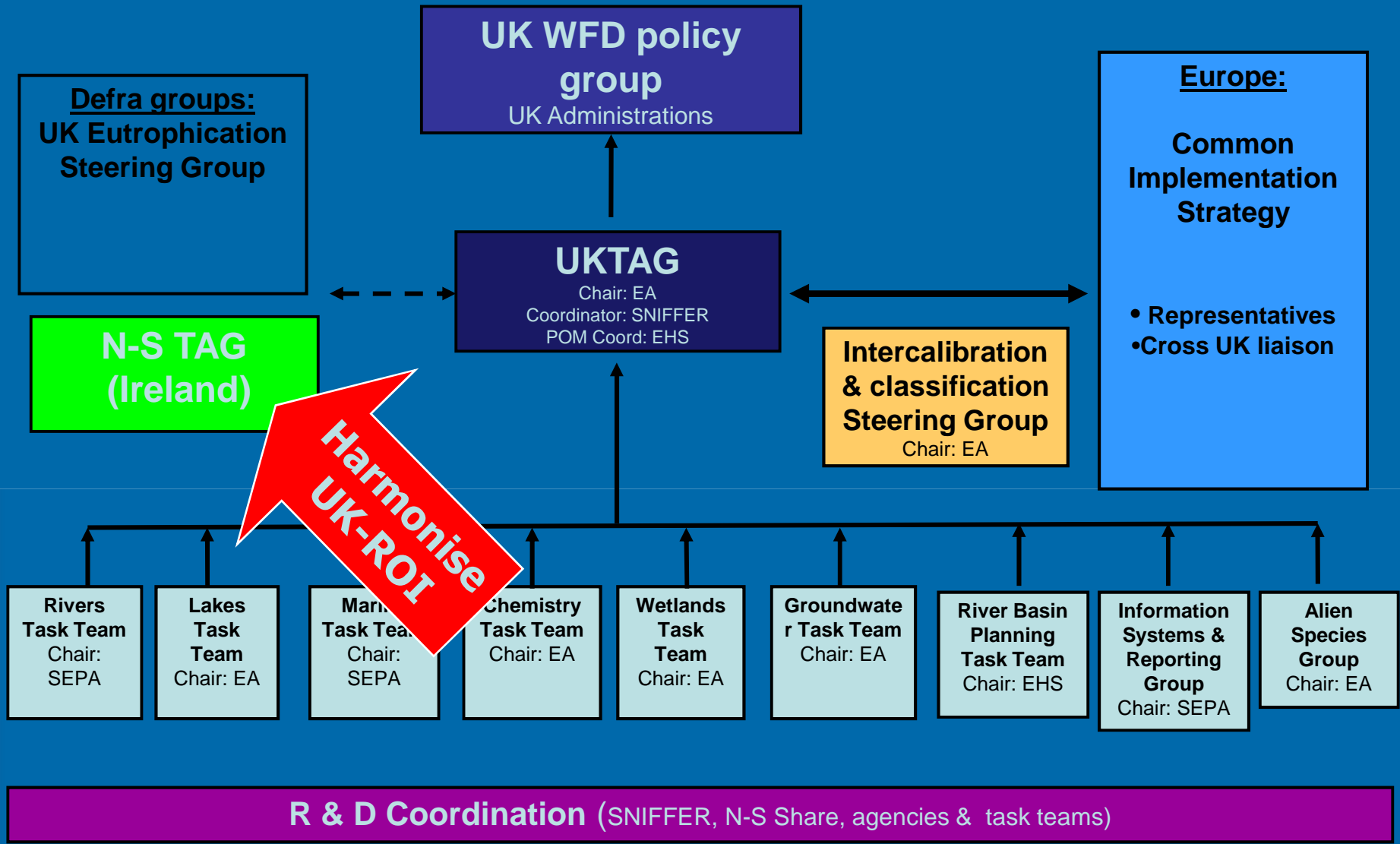
This website is one of the information sources which provides background information on the consultations for classification and environmental standards carried out by the UK

news

- UK Draft River Basin Management Plans - now live
22-12-2008
- Classification Scheme for Surface Waters
19-12-2007
- Stakeholder Review 2007 submissions
17-09-2007
- WFD research database.
19-04-2006

search

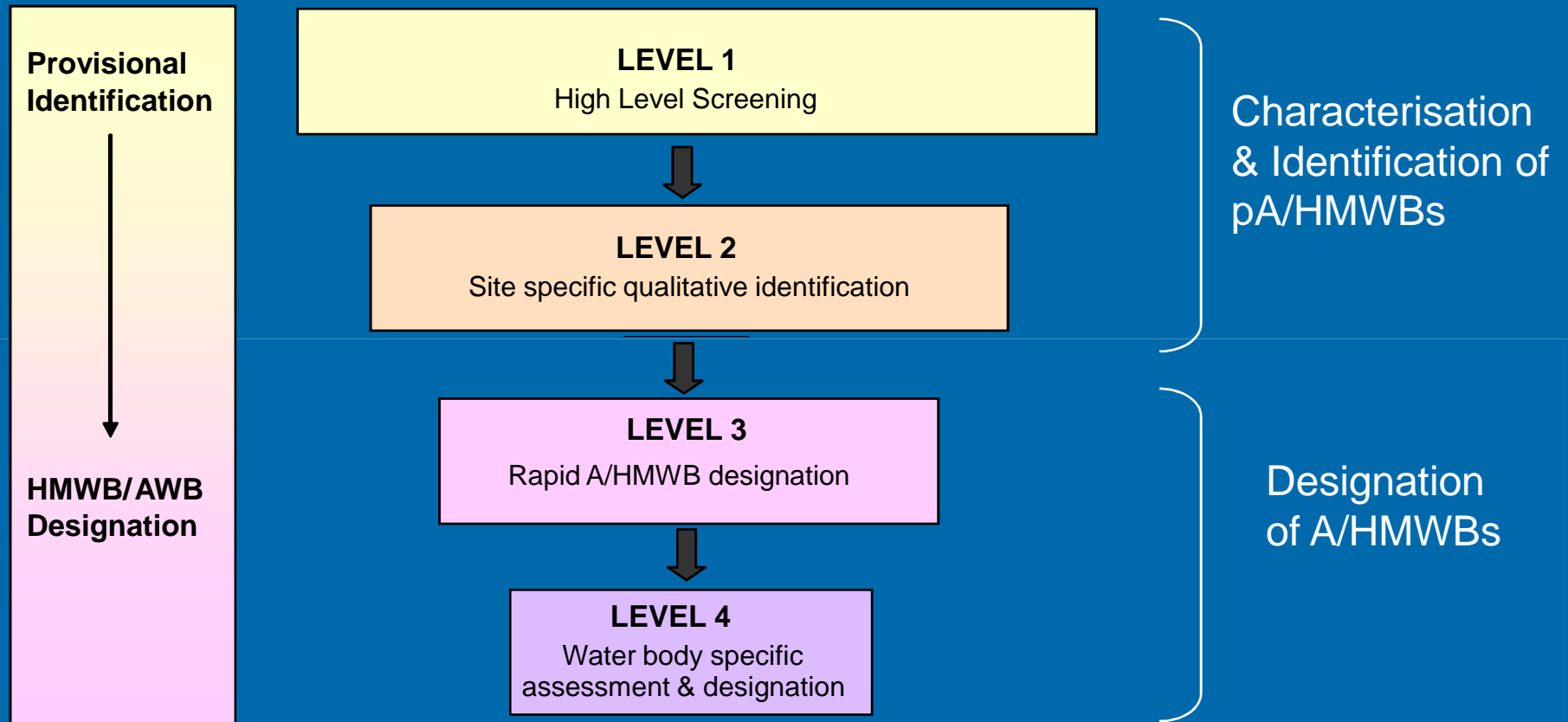
go!



HEAVILY MODIFIED & ARTIFICIAL WATER BODIES

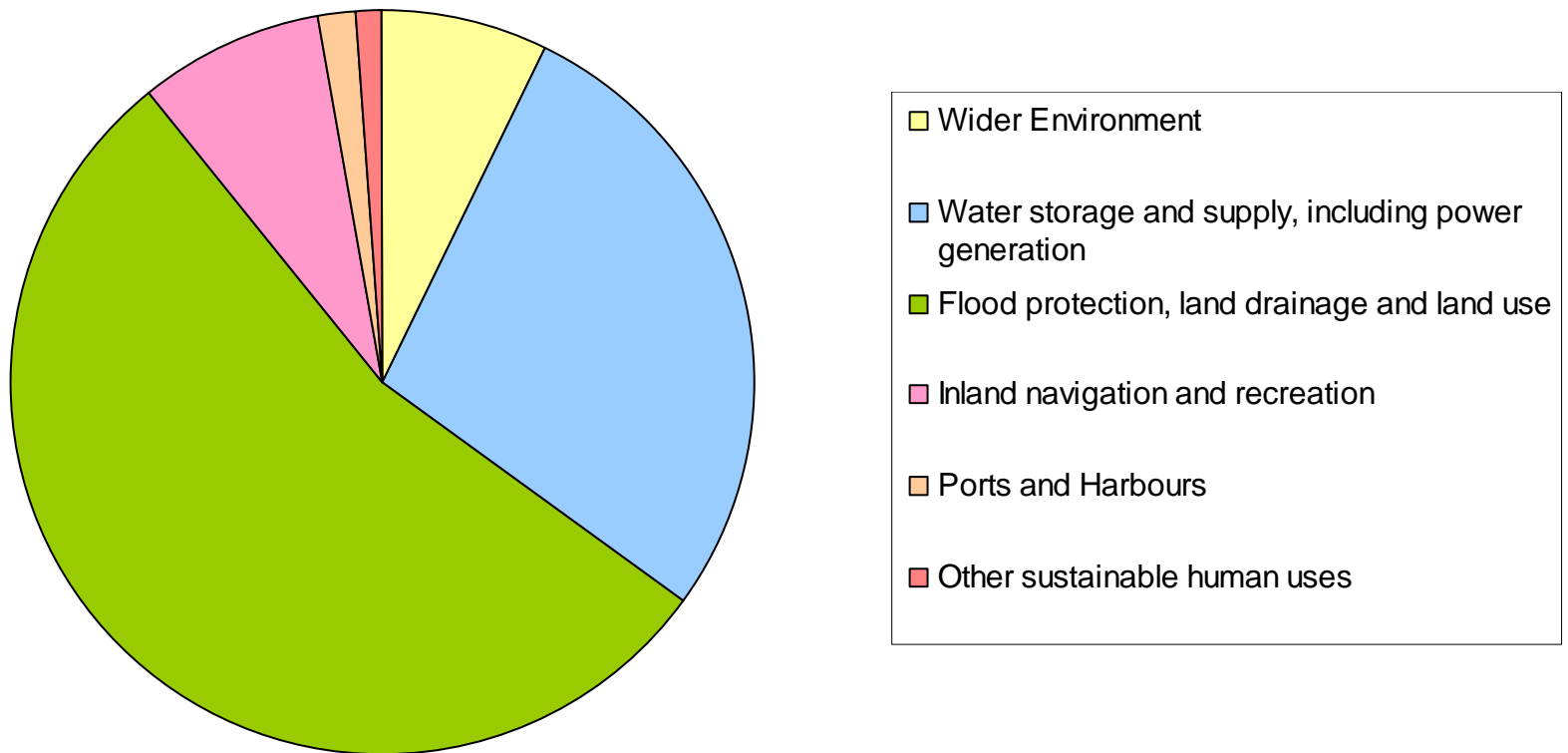


IDENTIFICATION & DESIGNATION OF A/HMWB

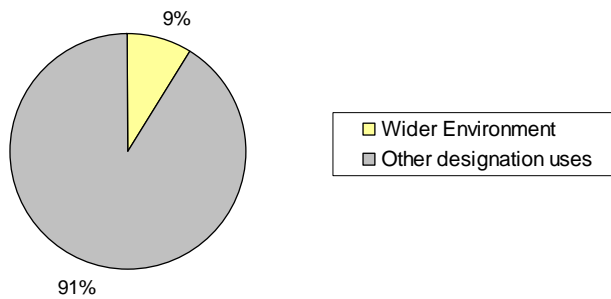


UK designation uses

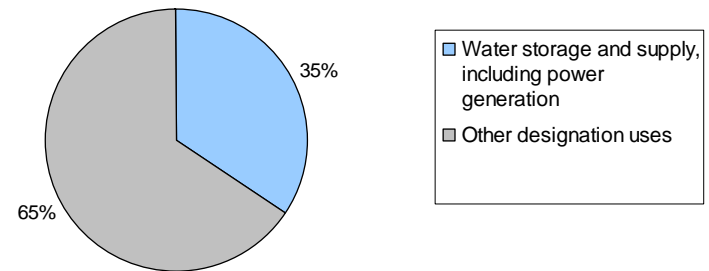
Where a water body was designated for more than one use, each use was counted



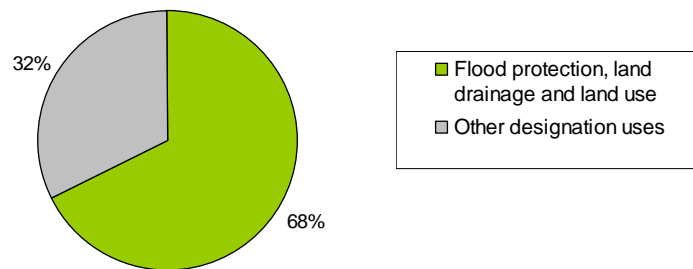
Percentage of UK A/HMWBs designated for wider environment use



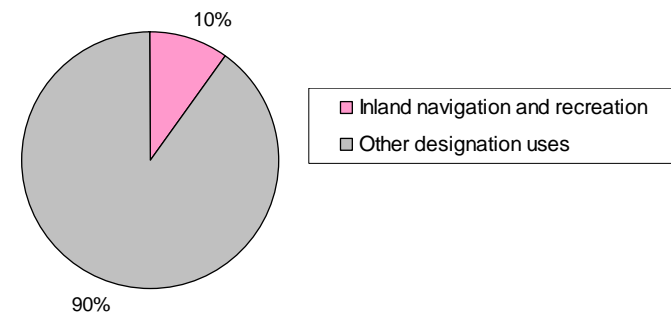
Percentage of UK A/HMWBs designated for water storage and supply uses (including power generation)



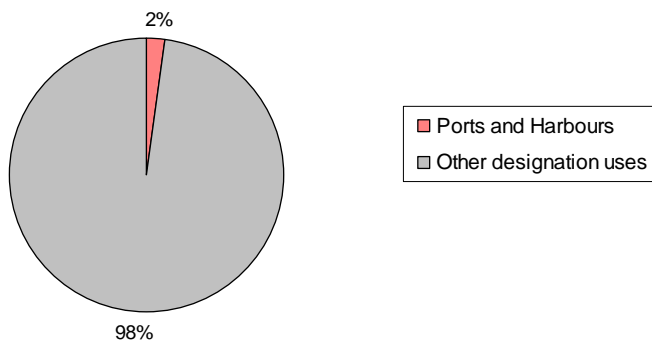
Percentage of UK A/HMWBs designated for flood protection, land drainage and land use



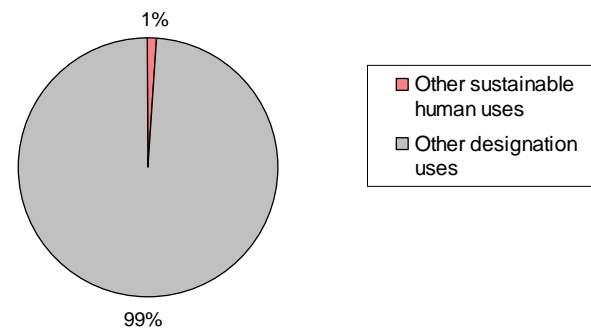
Percentage of UK A/HMWBs designated for inland navigation and recreation



Percentage of UK A/HMWBs designated for ports and harbour use



Percentage of UK A/HMWBs designated for other sustainable human uses



Alternative approach to defining Ecological Potential

Method development

- ➡ UKTAG mitigation measures approach
- ➡ Sector based projects
- ➡ Guidance developed and trialled (Sept 07 – Mar 08)
- ➡ Final version available on UKTAG website



**Navigation
(Inland)**

**Navigation
& Ports**

**Flood risk &
land
drainage**

**Hydropowe
r & water
supply**

Other

Broad measures types

- **Working with Physical Form and Function**
- **Structural Modification**
- **Operations and Maintenance**
- **Land Management**
- **Water Management**
- **Habitat Creation**

Step-wise approach to defining GEP

Define pressures and impacts

Mitigation measures

Identify the applicable mitigation measures

Classification

Set objectives for the water body

		A	B	C	D	E	F	G	H	I		
Pressure [substantial modification]	Sub-pressure	Is the pressure covered? [Y/N] If Yes, covered in column B.	Potential Impacts	Is there a significant adverse ecological impact or, in the absence of any mitigation already in place, could there be a significant adverse impact? [Y/N] If yes, covered in column C. If no, document in column D.	Mitigation Measures	Is the measure practicable given the characteristics of the water body? [Y/N] If yes, covered in Column C. If no, document the mitigation measure and covered in column G.	Is the mitigation measure in place and adequate? [Y/N] If yes, covered in Column E. If No, document the mitigation measure and covered in Column G.	Can the measure be implemented without having a significant adverse impact on use? [Y/N] If yes, covered in column F, if no document and covered in Column G.	Can the measure be implemented without having a significant adverse impact on the wider environment? [Y/N] If yes, covered in Column G, if no document and covered in Column G.	Document: - For measures not in place [covered in Column B] - For those already in place and adequate - For those not covered and	Are there any reasons that would affect the inclusion of the measure in the RBMP, or where an intended deadline or less stringent target might be justified?	Document reasons for measures in questions D, C, D, E and F
Bank and bed reinforcement and in-channel alterations	Hard protection e.g. steel piling, artificial walls and gabion baskets. Includes hard bank protection in a state of		Loss of riparian zone / marginal habitat / loss of lateral connectivity / loss of ordination		Removal of hard bank reinforcement / replacement, or replacement with soft engineering solution	1						
			Loss of ordinal connectivity (lateral) - build up of ordinal in the channel		Preval and restore ecological value of marginal aquatic habitat, banks and riparian Preval and restore benthic aquatic habitat	2						
Channel alteration	Dams, sluices, weirs and gravel traps		Loss of biological connectivity - interference with fish population		Operational and structural changes to sluices and weirs Install fish passes	2						
			Loss of ordinal connectivity (longitudinal) - build up of ordinal excess sediment build up		Removal of structures	3						
Channel alteration	Realignment / re-profiling / regrading		Loss of morphological diversity and habitat		Retain marginal aquatic and riparian habitat	4						
	Cutovers		Loss of morphological diversity and		Increase in-channel morphological diversity, e.g. install in-stream features; 2 large structures	10						
			Continuity		Regrading existing cutovers Alteration of channel bed	1 1						
Floodplain modification	Flood banks and flood walls		Loss of riparian zone / marginal habitat / loss of lateral connectivity / loss of ordination		Flood banks (earth banks) Soft bank reinforcement (a type of managed	1 12						
			Divers loss of / impact on aquatic habitat / hydromorphology		Improve floodplain connectivity	1						
Operational and maintenance	Ordinal management (including dredging)		Transfer of fine ordinal sediment		Ordinal management strategies (dredging and erosion) which could include: a) bank-to-riparian transfer, b) ordinal traps, c) allow natural processes maintaining maintenance, d) riparian revegetation, e) reduce all bar necessary management in flood risk areas	1						
			Bankside erosion and impacts on riparian habitat									
			Source of fine ordinal (disposal of									

Key points

Key Point

The financial costs of mitigation measures are not considered in the classification process. The costs of measures are taken into account in the Objective Setting process referred to in Figure 1. If a measure is disproportionately expensive, an extended deadline or less stringent objective will be set by the competent authority for the water body or bodies concerned.

Key Point

The method used to classify water bodies and the checklists themselves (if the Alternative Approach continues to be used) will be reviewed and updated for each river basin planning cycle as methods and understanding improve. The reviews will take account of experience of applying the guidance, information from environmental monitoring programmes, and research projects on the impacts resulting from physical modifications, and information on the effectiveness and practicability of different mitigation measures.

Ecological Potential Classification

➔ UK TAG methodology developed

➔ http://www.wfduk.org/tag_guidance/Article%20_11/POMEnvStds/gep_guidance_final

➔ In principle, there are five ecological potential classes: Maximum, good, moderate, poor and bad.

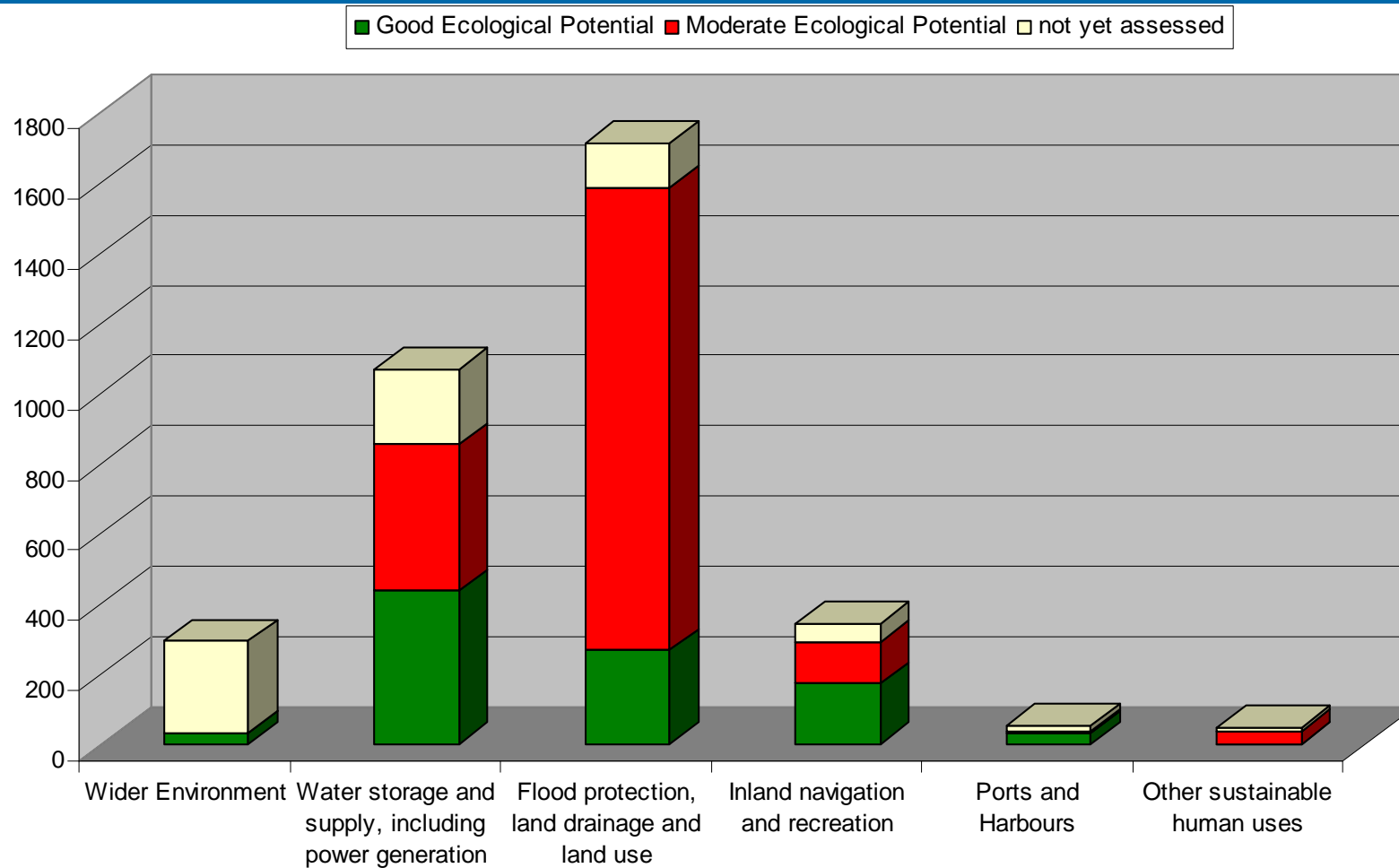
➔ UK TAG only 2 classes for 1st Cycle

- *Good Ecological Potential or better, or*
- *Moderate Ecological Potential or worse.*

Rollout and classification of GEP

Stakeholder participation

- ➔ Ports & Navigation
 - ➔ Inland Navigation
 - ➔ Hydropower companies
 - ➔ Internal Drainage Boards
 - ➔ Water Companies
-
- ➔ Questionnaire approach
 - ➔ Single activity of small number of WB's
 - ➔ Expert workshops for multi-issue water bodies
-
- ➔ Review by stakeholder groups



THANK YOU