

# Workshop

## Basic and supplementary measures and anticipated effects

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### Wetlands as supplementary measures – cost and benefits within the PoM



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## Structure of the presentation

- Legal basis
- Wetland in the PoM
- Wetlands and the Cost effectiveness
- Using wetlands in the PoM
- Wetlands measures
- Wetland costs
- Wetlands benefits



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## Legal basis

1) The Water Framework Directive (2000/60/EC) clearly identifies the protection, restoration and enhancement of the water needs of wetlands Article 1(a):

The purpose of this Directive is to establish a framework for the protection of inland surface waters, transitional waters, coastal waters and groundwater which:

(a) prevents further deterioration and protects and enhances the status of aquatic ecosystems and, with regard to their water needs, terrestrial ecosystems and **wetlands directly depending on the aquatic ecosystems**.

However, it does not provide any specific definition of what a wetland is, nor does it clearly state the extent to which wetlands should be used for the achievement of environmental objectives.

Member States and stakeholders felt that it would be helpful to explore and clarify the **role of wetlands in implementing the Water Framework Directive**.

2) CIS Guidance Document No 12 **“The role of wetlands in the WFD”**



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## Wetlands and the PoM (1)

### Basic and Supplementary Measures

Each programme of measures must include ‘basic’ measures, which are described in detail in Article 11.3, and, where necessary, ‘supplementary’ measures (WFD Article 11. 2).

### Wetlands and Basic Measures

Basic measures may include action directly to protect, enhance or restore wetlands, where:

- the wetland is a terrestrial ecosystem that is directly dependent on groundwater (Article 1(a),
- the wetland concerned is a river, lake, transitional or coastal water body (Article 4.1(a));
- the wetland is part of a hydromorphological quality element of a surface water body and requires protection, enhancement or restoration to ensure that the hydro-morphological conditions of the water body are consistent with the achievement of the relevant good status values for the biological quality elements (Annex V.1.2); and
- the wetland is a Natura 2000 Protected Area and depends, in part, for the achievement of its standards and objectives, on appropriate measures to protect, enhance or restore a surface water body or groundwater body in accordance with Article 4.1(c).



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## Wetlands and the PoM (2)

**Supplementary measures** are those designed and implemented in addition to the basic measures, with the aim of achieving the objectives of the WFD (see Article 11, paragraph 4). Part B of Annex VI of the WFD provides a non-exclusive list of such measures, including the recreation and restoration of wetland areas.

MSs may use wetland as a necessary measure to achieve the objectives of the WFD. In such cases, wetland restoration and recreation may be obligatory.

MSs may choose to use wetland management measures if they judge it would help ensure the most cost-effective approach, or otherwise most appropriate combination of measures.

MSs may also choose to use supplementary measures to provide for any additional level of protection or improvement of surface waters or groundwater above that required by the WFD.

Supplementary measures are not always discretionary. **Where the achievement of the objectives of the WFD can only be secured with the help of supplementary measures, Member States will be obliged to use them.**



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## Wetlands and the Concept of Cost Effectiveness

The economic analysis required under Article 5 and Annex III is designed to help MSs make judgements about the most 'cost effective combinations of measures' to achieve the Directive's objectives.

The cost-effectiveness analysis - principal focus on basic measures.

The comparison of the costs and benefits (including environmental costs and benefits) of measures involving the creation and restoration of wetlands with other options for achieving the WFDs Article 4 objectives may therefore form part of the assessment of cost effectiveness.

The appropriate evaluation and costing of wetland management measures may reveal the great value of goods and benefits provided by wetlands.



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## Using Wetlands in Programmes of Measures (1)

Functions of wetlands: in controlling significant pressures on the water environment (including pollution and the depletion of groundwater resources) and hence assist in the achievement of the WFDs environmental objectives - Article 4.

Case studies are used to illustrate the role which wetlands can play in managing water status within the river basin.

WFD Article 11.3(a) refers to measures required to implement Community Legislation for the protection of water, including those specified in Article 10, for instance the **use of wetlands to improve water quality**, and part A of Annex VI, which includes the Birds and the Habitats Directives relevant to wetland protection and wetland management.



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## Using Wetlands in Programmes of Measures (2)

- WFD measure related to:
  - Hydromorphology (sediment management, **wetlands**, return to natural rivers, surface water profiles etc...)
  - Fish fauna (composition, abundance, age structure, **migration**)



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## Wetlands measures

- Wetlands are integral component of WFD
  - Issue of protection to prevent deterioration (i.e. maintenance measure) – maintain biodiversity, habitats, coastal protection etc...
  - Issue of a tool to carry out functions (i.e. investment measure) – water treatment, flood protection etc...
- Wetlands are cross cutting measures, relevant to different policy domains – WFD, Natura2000, CAP, European Marine Strategy, Floods Directive.



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## Wetlands: costs and benefits

- Several individual studies on wetland valuation and restoration exist.
- Costs?
  - Some information on investment costs and loss of opportunities for agricultural production
- Benefits?
  - Many studies on the goods and services that Wetlands provide
- Projects: VITO NV, EUROWET, EVALUET+WEDSS, December Nota – the Netherlands.



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# Cost-effectiveness analysis

Project REFRESH Cost-effectiveness analysis report for the  
Thame sub-catchment including analysis of disproportionality

**Establish and maintain constructed wetlands –Constructed  
wetlands/sediment ponds.**

Defra (2003) description was adapted for cost estimates. It has  
been assumed that 0.5 ha area would be needed as  
sedimentation ponds per 200ha of the arable and grassland to  
which it applies (10% of arable and grassland).



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## Wetlands: costs

- **Investment costs** in NW Europe range from €150k to €400k/ha – developments very site specific.
- **Opportunity costs** (loss in agricultural production).
  - Scheldt project (Belgium) – loss of agricultural land estimated as €30k/ha
- **Restoring costs**
  - US study - \$9k to 200k per ha
- **Wetlands development for water treatment**
  - USEPA study – **low long term maintenance costs**

Source: Projects: VITO NV



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## Wetlands: benefits

- Typical goods and services are: flood prevention, nutrient and pollutant load abatement, wildlife protection, tourism and recreation.
- **Use-values**
  - Improving water quality e.g. Morava floodplain (Slovak Republic) - estimated monetary value as a N sink is €680k per annum.
  - Flood protection e.g. Scheldt river (Belgium) – estimated monetary value of 1800 ha controlled inundation area is €650M until the year 2100.
  - Fish resources – two thirds of fish consumed world wide depend on coastal wetlands at some stage (RAMSAR website)
  - Recreational benefits for hiking, birth watching, fishing...

Source: Projects: VITO NV



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## Thank you!



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