

# The European Union Water Framework Directive Characterisation Exercise

*what it means for the tidal Thames....*



*the Thames estuary is our estuary...*

*...working together for the best future for our estuary*

This document has been produced in partnership by the Port of London Authority and the Thames Estuary Partnership.



## Port of London Authority

The Port of London Authority is the port authority for 150 km (95 miles) of the tidal Thames from the sea to Teddington. It provides navigational, pilotage and other services for ships using the Port of London. London is one of the top three ports in the UK and handles over 50 million tonnes of cargo each year.



Thames Estuary Partnership

## Thames Estuary Partnership

The Thames Estuary Partnership provides a neutral forum to assist and co-ordinate the wide range of organisations and sectors involved in the Thames Estuary, working towards its sustainable management.

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## Introduction

The Environment Agency, as the authority responsible for implementing the EU Water Framework Directive 2000, has recently been carrying out an exercise known as 'river basin characterisation'. In September 2004, the results of this exercise were made public. The purpose of this information note is to help the Port of London Authority (PLA), other operators and environmental stakeholders on the tidal Thames understand the work that has been carried out, its possible implications, and how to get involved in the process.

### What is the Water Framework Directive?

Directive 2000/60/EC 'establishing a framework for community action in the field of water policy' is commonly known as the Water Framework Directive (WFD). It became law in England and Wales via the Water Environment (Water Framework Directive) (England and Wales) Regulations 2003.

The WFD introduces a new, integrated approach to water protection, improvement and sustainable use. Unlike the EU Birds and Habitats Directives which apply only to designated sites, it applies to **all** water bodies including those that are man-made. On the tidal Thames, the WFD will apply not only to the estuary itself right out to the southern North Sea, but also to the associated docks and waterways etc.

The WFD is widely referred to as the most important and far-reaching water legislation ever to come out of the EU. It is ambitious in both its scope and its timetable. It may have some significant implications for navigation, port and harbour activities, and dredging.

### What does the WFD aim to achieve?

The WFD will rationalise and consolidate existing piecemeal water legislation. The following are amongst its objectives:

- to prevent deterioration in water status (a measure of quality);
- to restore water bodies to good status by 2015;
- to reduce pollution from certain substances and to phase out others completely; and
- to contribute to achieving the objectives for sites protected under other EU legislation (on the Thames, this includes the Thames Estuary and Marshes SPA designated under the Habitats Directive, the outer Thames Shellfish Waters protected under the Shellfish Waters Directive, and so on).

## What does WFD terminology mean?

The WFD introduces a new language to the discipline of water management. It also sets targets which must (in most cases) be achieved by 2015. The following table sets out and explains some of the terms used.

WFD terminology	What it means in practice
Characterisation	A process used to identify and assess all water bodies in order to determine the nature of the water body, the ways in which it is affected by human activity, and whether or not it is likely to achieve the targets set by the WFD. Characterisation is dealt with in more detail later in this document.
Heavily modified water body (HMWB)	The WFD recognises that some water bodies have been modified by man to the extent that it will not be possible for them to meet the WFD targets. Water bodies that meet the criteria set out in the WFD will be designated as <i>heavily modified water bodies</i> and lower targets will be set accordingly.
Artificial water bodies (AWB)	The WFD acknowledges that some water bodies have been created by man (eg. docks, canals, etc.). These water bodies will be designated as <i>artificial water bodies</i> and their targets will be set accordingly.
Ecological status	The WFD introduces targets which reflect the natural biological and ecological characteristics of different types of water body. These characteristics are referred to as <i>ecological status</i> .
Good ecological status	The target for natural water bodies will be <i>good ecological status</i> . In practice, this means that the ecological target will be just a slight reduction in quality when compared to the pristine natural water body.
Good ecological potential	The targets to be set for designated AWBs and HMWBs will reflect the conditions in comparable natural water bodies. However, the target for AWBs and HMWBs will be <i>good ecological potential</i> . This target will be derived from the best ecological condition achievable for that water body, taking into account both the physical modifications which have been made to the water body, and its current use.
Good chemical status	In addition to ecological targets, all water bodies must achieve <i>good chemical status</i> . Amongst other things, this target reflects the aim set out in the WFD to reduce inputs of priority substances and to phase out completely certain priority hazardous substances.
Derogations	The WFD acknowledges that, for any water body, there may be valid technical, economic or social reasons why the required targets cannot be achieved by 2015. It therefore allows less stringent targets to be set for such water bodies.
River Basin Management Plans (RBMPs)	The WFD introduces a new, statutory system of <i>river basin management plans</i> . These plans will provide the mechanism for the future management of both water use and of activities affecting water status.
Programmes of measures	The RBMPs will summarise the <i>programmes of measures</i> required to meet the WFD objectives. Such measures may be national, regional or local; they may be statutory or non-statutory. Measures can be used to improve the ecological, chemical or hydromorphological (physical) characteristics of water bodies.

## What is characterisation all about?

One of the first requirements of the WFD is for Member States to carry out a characterisation exercise. In England and Wales, this has been undertaken by the Environment Agency and Defra (the Department for Environment, Food, and Rural Affairs).

Characterisation involves three components:

- an analysis of river basin characteristics;
- a review of the impacts of human activity; and
- an economic analysis of water use.

## How is the analysis of river basin characteristics relevant to the tidal Thames?

The analysis of river basin characteristics will identify and describe the water bodies to be used in WFD implementation and for monitoring purposes. The wider tidal Thames Estuary is broken down into several water bodies of different sizes. As the discussions in the following sections indicate, water body size may be relevant to the tidal Thames because a small activity in a large water body may have less impact on water status than a widespread activity or one occurring within a smaller water body.

## What does the review of the impacts of human activity involve?

During 2004, the Environment Agency has been carrying out a risk assessment exercise to identify water bodies that are 'at risk' of failing to meet good status (ecological and/or chemical) due to the impacts of human activity. This has involved the identification of a range of

'pressures' which could affect biological, chemical and/or hydromorphological (physical) receptors, and which could therefore influence the ability of each water body to achieve good status by 2015.

In coastal and transitional (the WFD term for estuarine) waters, such pressures could include the input of nutrients or hazardous substances, organic enrichment, commercial fishing, abstraction or industrial intakes, alien species, and hydrological or geomorphological impacts. In respect of the latter impacts, the Environment Agency has collated data on the following:

- navigation dredging and dredged material disposal;
- aggregate dredging;
- commercial fisheries, including shellfisheries;
- impoundments and other forms of flow manipulation;
- reclamation; and
- shoreline structures.

As part of the risk assessment, thresholds have been developed as an alternative measure of the likely risk of failing to meet good status. Such thresholds may be based, for example, on the percentage of the water body affected by a certain pressure. Many of the pressures and activities listed above affect the tidal Thames. The PLA and other operators are therefore amongst those stakeholders with a potentially important role to play in contributing valuable data to the risk assessment process.

## Why are the results of the risk assessment process important to the operators on the tidal Thames?

Water bodies which are at risk of failing to meet good status (or potential) will be subject to monitoring to validate the risk assessment, and 'measures' will subsequently be identified with the aim of protecting and/or improving water status.

The identification of a water body as being at risk could therefore have important implications on how the water body - and any activities that affect its status - will be managed in the future. It is therefore essential to ensure that decisions on at risk water bodies are well-informed and scientifically and technically robust.

A two-stage approach to the risk assessment exercise has been adopted by the Environment Agency, in part because of the recognised time constraints and, in some cases, a lack of readily available data. The initial fit-for-purpose assessment has been reported in the Characterisation Report, issued for stakeholder review in September 2004. This will be followed by a more detailed refinement exercise from early 2005 onwards.

The Environment Agency have acknowledged that an important part of the refinement exercise will involve collating additional data and hence improving confidence in the outputs of the risk assessment exercise.

On the tidal Thames, operators and stakeholders thus have an important opportunity to contribute to the characterisation process, and hence to ensure that any future measures required to protect and improve water status are properly justified.

## What about the identification of heavily modified and artificial water bodies on the tidal Thames?

In parallel to the risk assessment exercise, the Environment Agency is also identifying provisional heavily modified and artificial water bodies. As indicated earlier, HMWBs and AWBs will be subject to lower, site-specific ecological targets. As with at risk water bodies, it will therefore be important to ensure that the final decisions on HMWB and AWB designation are also well-informed and scientifically and technically robust.

To qualify for designation as a HMWB or AWB, water bodies must meet certain criteria. Specifically, it must be shown that:

- they are not already at good ecological status;
- restoration to good ecological status would have a significant adverse effect on the existing use; and
- there is no technically feasible, environmentally better option which is not disproportionately costly.

Once again, stakeholders on the Thames such as the PLA, berth operators and environmental groups are likely to hold important information which is relevant to the decision making process.

## Why are the economic analyses relevant to the tidal Thames?

The final part of the characterisation exercise, which is being undertaken on behalf of Defra, is the preparation of the methodologies to be used to assess the economic implications of WFD implementation.

It is clear from the wording of the WFD that its objectives are not intended to be achieved at any cost. There are several references to the need to ensure cost-effectiveness and to avoid disproportionate cost and unreasonable expense.

The work being carried out by Defra is relevant to those on the tidal Thames for a number of reasons, including:

The economic importance of water-related activities on the tidal Thames must be recognised by Defra and the Environment Agency (i.e. those with responsibility for implementing the WFD). To assist this, the PLA has already contributed to a national case study setting out the economic importance of the UK ports industry.

The WFD enforces the 'polluter pays' principle. There is a clear focus within the Directive on cost recovery mechanisms. These principles, and the question of 'who is the polluter?', are likely to become increasingly important, especially in cases where contaminated material requires dredging.

Activities such as dredging, by their very nature, affect water status - at least on a temporary and local basis. In considering whether or not constraints on dredging are justified, those responsible for WFD implementation will need to assess not only whether any proposed measures are cost effective, but also whether they involve incurring a disproportionate cost.

## Why does all this matter?

The outcomes of the characterisation exercise - not only the fit-for-purpose review, but also the refinement exercise - will inform the programmes of measures required to achieve the WFD targets by 2015. From the information currently available, it seems likely that these programmes of measures could potentially have consequences for the following activities:

- maintenance activities (not only maintenance dredging and disposal, but also activities such as bank protection and weed control);
- navigation/vessel movement (for example related to boat wash and bed disturbance in areas with low under keel clearance);
- discharges (e.g. licensed, point source) and diffuse pollution (e.g. boat emissions, anti-fouling paints);
- abstraction or impoundment and related structures (e.g. weirs, locks); and
- new developments (including those affecting the physical characteristics of a water body, such as construction and/or capital dredging requirements).

## What questions need to be addressed?

The WFD specifically requires Member States to encourage the active involvement of all interested parties in its implementation. River basin characterisation is not yet complete. However, it is clear that it will be important to stakeholders on the tidal Thames to ensure that the characterisation exercise produces scientifically robust, well-informed and transparent outputs.

In this respect, it appears there are a number of aspects of the conclusions of the initial characterisation (now available on [www.environment-agency.gov.uk/wfdreview](http://www.environment-agency.gov.uk/wfdreview) and [www.characterisationqualityreview.org.uk](http://www.characterisationqualityreview.org.uk)) that may require further attention during the refinement process over the next few years, notably:

- do the data sets used by the Environment Agency (e.g. on morphological change, pollution, etc.) adequately reflect the nature and extent of water-related activities on the tidal Thames?
- is it clear how it has been determined whether a water body is at risk of failing to meet good status?
- where water bodies have been identified as being at risk of failing to meet good status due to morphological change, does this seem reasonable? If not, might this be a result of an activity (e.g. dredging) affecting only a small proportion of an otherwise large water body?
- overall, do the conclusions appear reasonable and are they scientifically justified?

The PLA and others have responded to the Environment Agency on any urgent issues and any serious omissions in the datasets in respect of wider navigation interests on the tidal Thames. However, the involvement of all stakeholders -

for example in ensuring that relevant sources of information are identified to the Environment Agency by 30th November 2004 - will be essential if future decisions affecting water use and management on the tidal Thames are to be transparent and well-informed.

In addition to the above, stakeholders may also be interested in the economic methodologies published recently by Defra (see [www.defra.gov.uk/environment/water/wfd/economics/index.htm](http://www.defra.gov.uk/environment/water/wfd/economics/index.htm)). In applying these methodologies, it will be essential to ensure that the economic analyses address the following questions:

- do the outputs adequately differentiate between contaminants which are, or are not, bio-available? If the contaminants are not bio-available, measures may not be economically justified;
- do the outputs identify and deal with additional costs if dredged depths cannot be maintained? For example, if larger vessels cannot be accommodated, there may be extra costs associated with the double handling of imports and exports;
- do the outputs allow for the evaluation of the wider environmental costs of road and rail transport if WFD-related constraints on dredging could affect the viability of waterborne transport?

the WFD implementation process at a local level, thus ensuring that their interests are adequately represented.

## So, what should I do?

As indicated above active, early and ongoing participation by tidal Thames stakeholders will be essential if the information needed to answer these questions is to be forthcoming and if solutions are to be agreed.

The EA and Defra websites describe how and when stakeholders can respond to the initial characterisation exercise. Operators on the tidal Thames will need to be proactive in taking this and other future opportunities to participate in

<sup>1</sup> Bioavailable means that contaminants can be taken up by organisms. Some contaminants may be so strongly attached to the sediment that they would not move into the water if the sediment was disturbed.