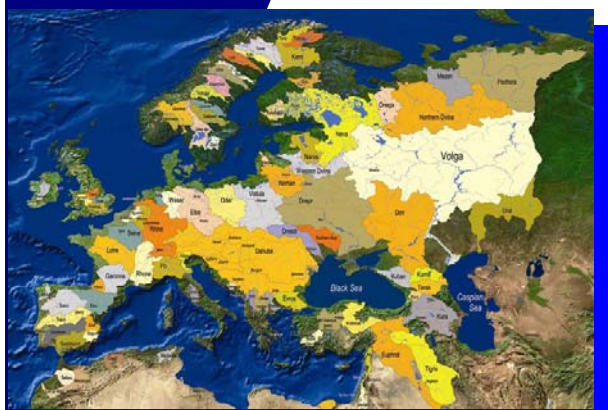


# Rural, Water and Ecosystem Resources Unit

*informs*



## Water Framework Directive - Q&A on the intercalibration of ecological water quality

### What is the Water Framework Directive ?

Water is not a commercial product like any other but, rather, a heritage which must be protected, defended and treated as such. This acknowledgement is the cornerstone of the EU's water policy. The [Water Framework Directive \(2000/60/EC\)\(WFD\)](#) is the most substantial piece of water legislation from the EC to date. The Directive requires all inland and coastal waters to reach 'good chemical and ecological status' for surface waters and 'good status' for groundwater in terms of quality and quantity by 2015. It will do this by establishing a river basin district structure within which demanding environmental objectives will be set. The Directive therefore sets a framework which will provide substantial benefits for the long term sustainable management of water.

### What do we get for the Directive ?

We get better water quality in a much more joined up way - letting us balance environmental, economic and social considerations. The Water Framework Directive will safeguard and improve water quality. But unlike previous directives, this Directive looks at the condition of all the key things living in the water in order to decide if it is good quality or "good status". This is not just good news for fish and other living organisms in the water. It's good for humans as well because if our rivers, lakes or other water bodies are in good conditions, we can be much more confident of passing them on to future generations for their use, whether it be economic use, recreation or just sitting enjoying the view.



*Lago di Trentino, Italy*

### What means "ecological status" ?

A core concept of the Water Framework Directive is that the condition of biological communities is used to assess the ecological quality of surface waters. The classification system will cover all surface water and groundwater bodies, and be based on a new Ecological Classification System. The new system, with five quality classes underpinned by monitoring a range of biological quality elements, will be supported by measurements of physico-chemistry, hydrology and morphology.



*Skjern River Restoration Project, Sweden  
- before, during and after restoration.*

### What means "good" ecological status ?

The WFD classification scheme for water quality includes five status categories: high, good, moderate, poor and bad. The general objective of the WFD is to achieve good status for all surface waters by 2015. Assessment of quality is based on the extent of deviation from these reference conditions, following the definitions in the Directive. Good status means 'slight' deviation, 'moderate status' means 'moderate' deviation, and so on. These definitions are expanded in Annex V to the WFD

## What means "high ecological status" or "Reference conditions" ?

High status is defined as the biological, chemical and morphological conditions associated with no or very low human pressure. This is also called the 'reference condition' as it is the best status achievable - the benchmark. These reference conditions are type-specific, so they are different for different types of rivers, lakes or coastal waters so as to take into account the broad diversity of ecological regions in Europe.



Blooming of bluegreens in Leeuwenhofvijver

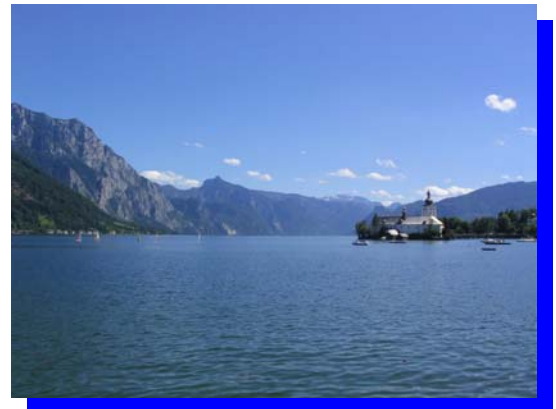
## What is the EEWAI role in the WFD implementation ?

However, WFD application its application poses complex problems to which research, and particularly applied research, should contribute answers. The European Ecological Water Quality and Intercalibration Centre (EEWAI) supports the EU water policy by:

- Development of WFD compliant bioindicators and classification tools for ecological water quality assessment;
- Coordination and facilitation of the Intercalibration of ecological water quality objectives.

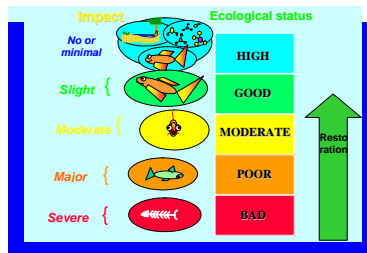
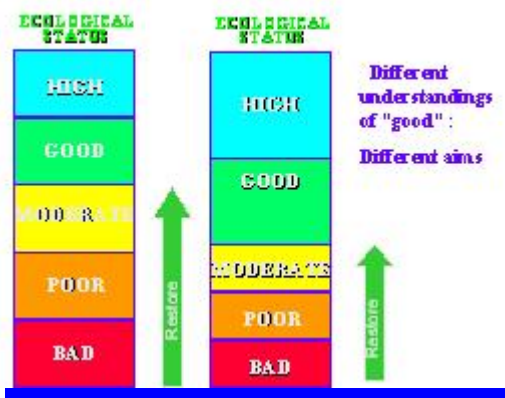
## What is "the Intercalibration"?

Intercalibration aims to harmonize the understanding of 'good ecological status' in all Member States and to ensure that this common understanding is consistent with the definitions of the Directive.



Traunsee – Reference lake in Austria

Different countries – different understandings of "good"



EEWAI



Chlorophyll a - the green pigment that is found in all plants which allows them to photosynthesize, an estimate of the total amount of algae growing in a lake

## What has been achieved by now ?

### Intercalibration of Lakes

The results of the first Intercalibration exercise are the boundary setting for chlorophyll a values (measure of phytoplankton abundance) for all GIGs, including three consecutive tasks:

- Defining of reference criteria and reference lake datasets;
- Setting of reference conditions and High-Good boundaries;
- Setting of Good-Moderate boundaries.

The setting of reference conditions and boundaries for chlorophyll a values can be considered as an important step towards harmonized assessment of lake ecological status across Europe.

### Intercalibration of Rivers

Historically, macroinvertebrates abundance and diversity of have been used as an indicator of ecosystem health and biodiversity. Each country has developed their assessment system, based on species composition of benthic invertebrates (proportion of sensitive / tolerant taxa). Macroinvertebrate based assessment systems are harmonized across the Europe Union, ensuring the common understanding of good status of rivers and streams.



Macroinvertebrates are aquatic invertebrates including insects, crustaceans, molluscs and worms which inhabit river bottom and shores ria

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