

Living Neretva-Towards EU standards in the Neretva  
river basin (BiH)

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**Environmental Flow Working  
Group (WFD-WG1):**

**Water Framework Directive, River  
Basin Management Plan and  
Environmental Flow**

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# Water Framework Directive



**Good ecological status**



**Environmental Flow**



**River Basin management Plan**



# Water Framework Directive (WFD 2000/60/EC): 27 countries

**Water is not a commercial product like any other but, rather, a heritage which must be protected, defended and treated as such.**

## **WHY?**

**Waters in the Community are under increasing pressure from the continuous growth in demand for sufficient quantities of good quality water for all purposes.**

- EU-wide framework for protection of surface and groundwaters**
- sustainable use of water**
- Integrated approach to water/catchment management**

## OBJECTIVE:

All EU members should achieve **good ecological status** or good ecological potential in **ALL WATER BODIES** (rivers, lakes, groundwater)

by 2015

## How?

- by defining and implementing the necessary measures within integrated programmes of measures, taking into account existing Community requirements.
- Quality and quantity of water
- No deviation

**ENVIRONMENTAL FLOWS** to achieve objectives: **GES**,  
- Stakeholders engagement

# Quality elements for the classification of ecological status: RIVERS

## Biological elements

Composition and abundance of aquatic flora

Composition and abundance of benthic invertebrate fauna

Composition, abundance and age structure of fish fauna

## Hydromorphological elements supporting the biological elements

Hydrological regime

quantity and dynamics of water flow

connection to groundwater bodies

River continuity

Morphological conditions

river depth and width variation

structure and substrate of the river bed

structure of the riparian zone

## Chemical and physico-chemical elements

General

Thermal conditions

Oxygenation conditions

Salinity

Acidification status

Nutrient conditions

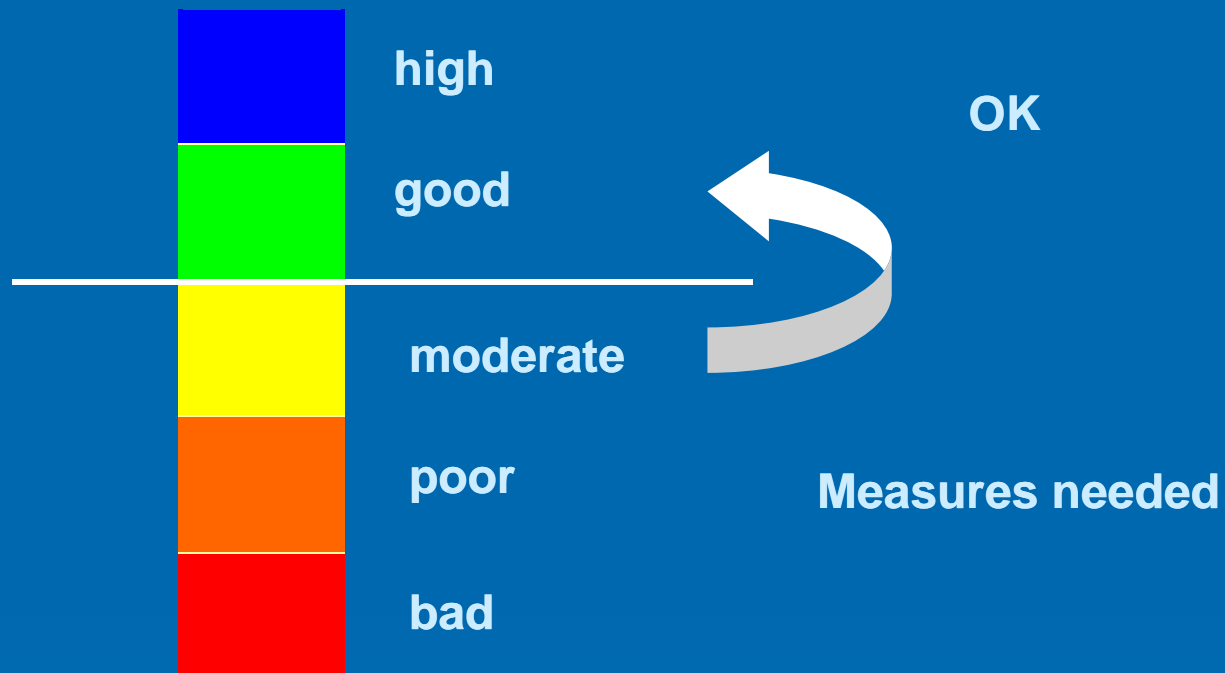
Specific pollutants

Pollution by all priority substances identified as being discharged into the body of water

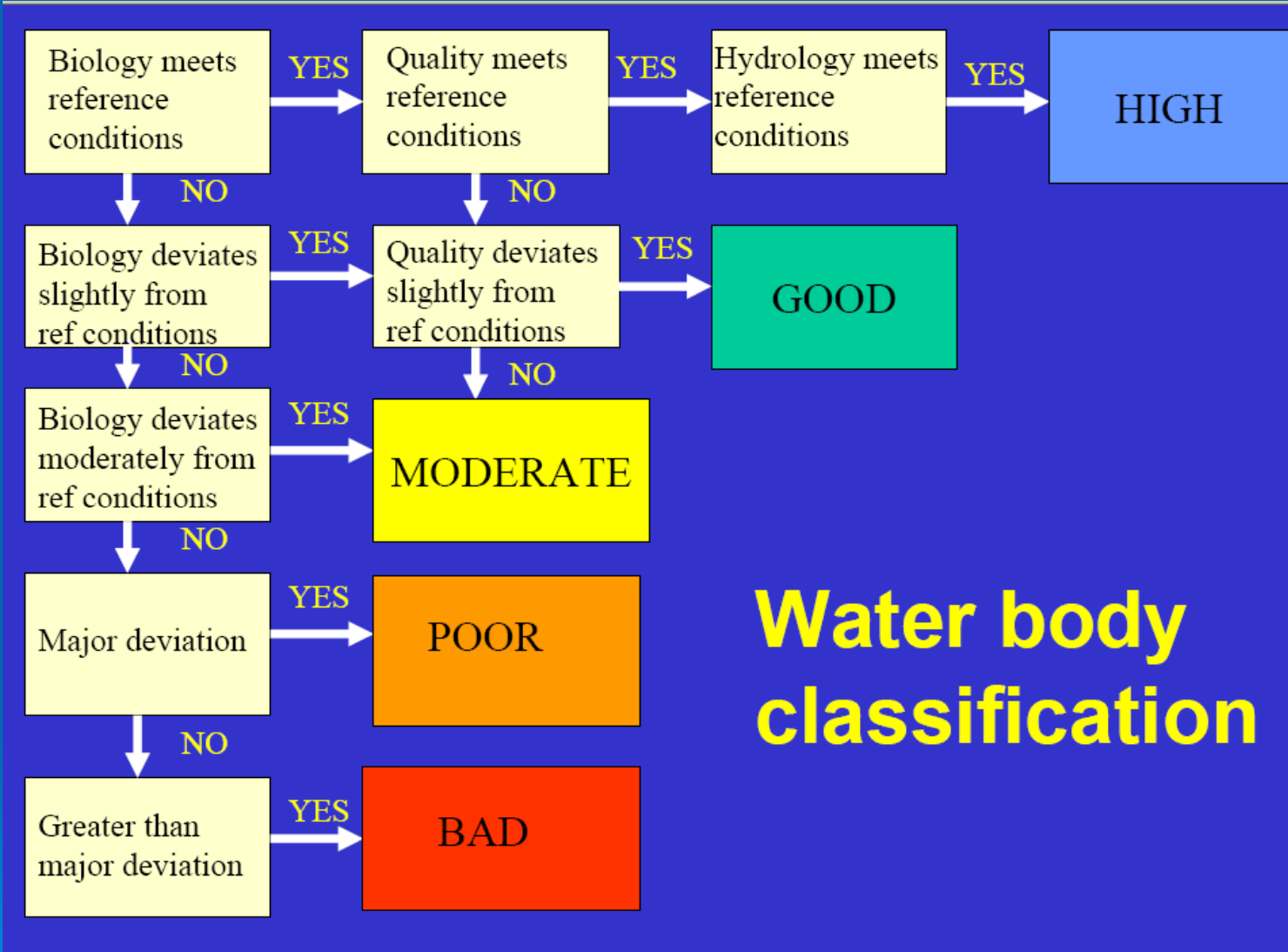
Pollution by other substances identified as being discharged in significant quantities into the body of water

# WATER BODY CLASSES

## Reference conditions



Biological elements, hydromorphological elements,  
Chemical and physico-chemical elements



# Water body classification

## WHERE to include Environmental Flows in WFD?

The reason for GES falling:

water abstraction

water diversion

reservoir release regulation

Implementation WFD to achieving GES:

- **limits to abstraction**: maximum water abstraction  
different levels of water abstraction for different types

- **required releases** from reservoirs

Collection of data on flow needs for ecosystem/species approach, building block type approach

**Evaluation the risk** of falling GES at different scenarios



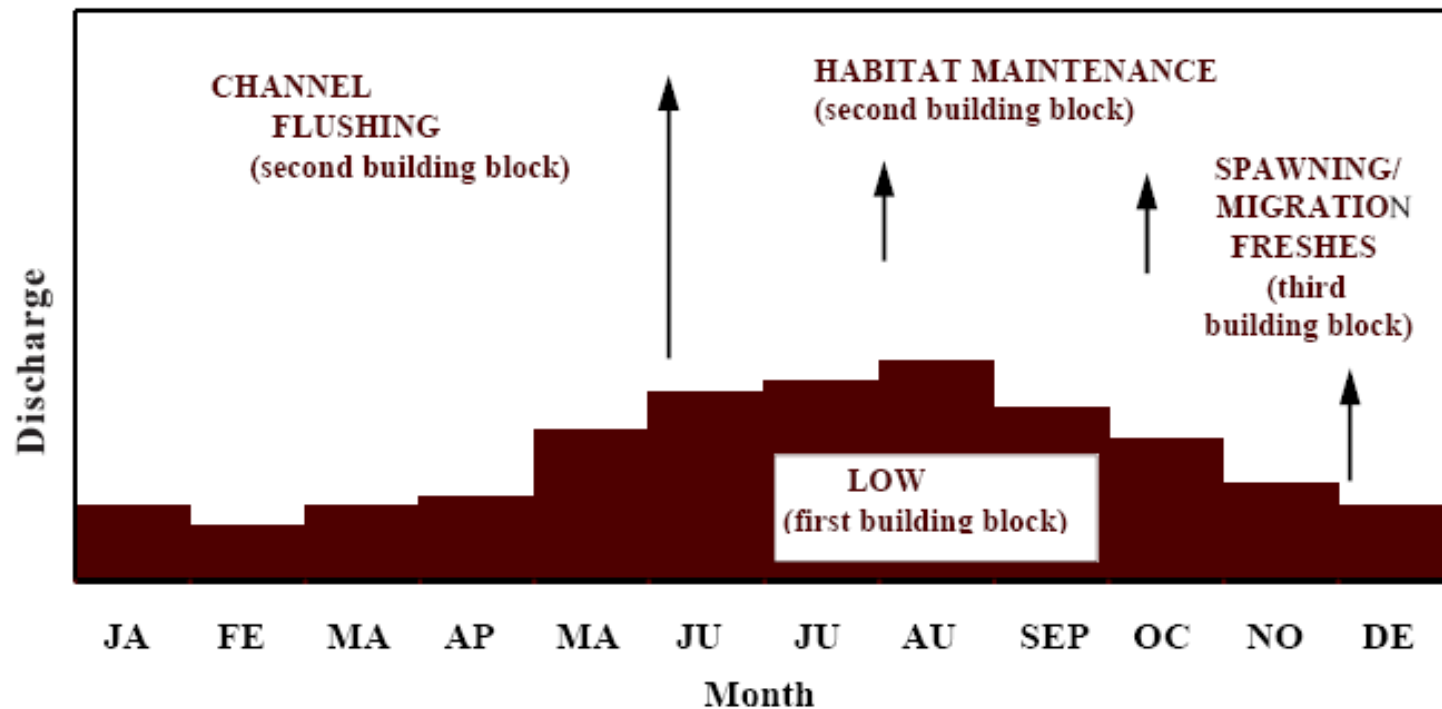


Fig. 2. Example of flow regime built up using building blocks.

In: Acreeman and Dunbar, 2004

- Sediment sorting flood, flows for plants, invertebrates, algae

## HOW TO GET THE RIGHT REGIME?

- ✓ Use biological, hydrological, physico-chemical data
- ✓ Ensure variations between month and years
- ✓ Monitoring
- ✓ Testing of effectiveness of flow regime
- ✓ River basin management plans – 2009

## HOW TO IMPLEMENT?

- ✓ Find a balance between water use and environment
- ✓ Over-allocated rivers:
- ✓ Licences
- ✓ Increasing water bills
- ✓ Compensation measures

