



# Europe-wide monitoring obligations under the EU Water Framework Directive

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# New European Water legislation

December 2000:

European Water Framework Directive (WFD)

Environmental objective:

Good surface water and groundwater status

Starting point:

Water management is based on river basins



# Timeline

End 2003: WFD transposed into national legislation

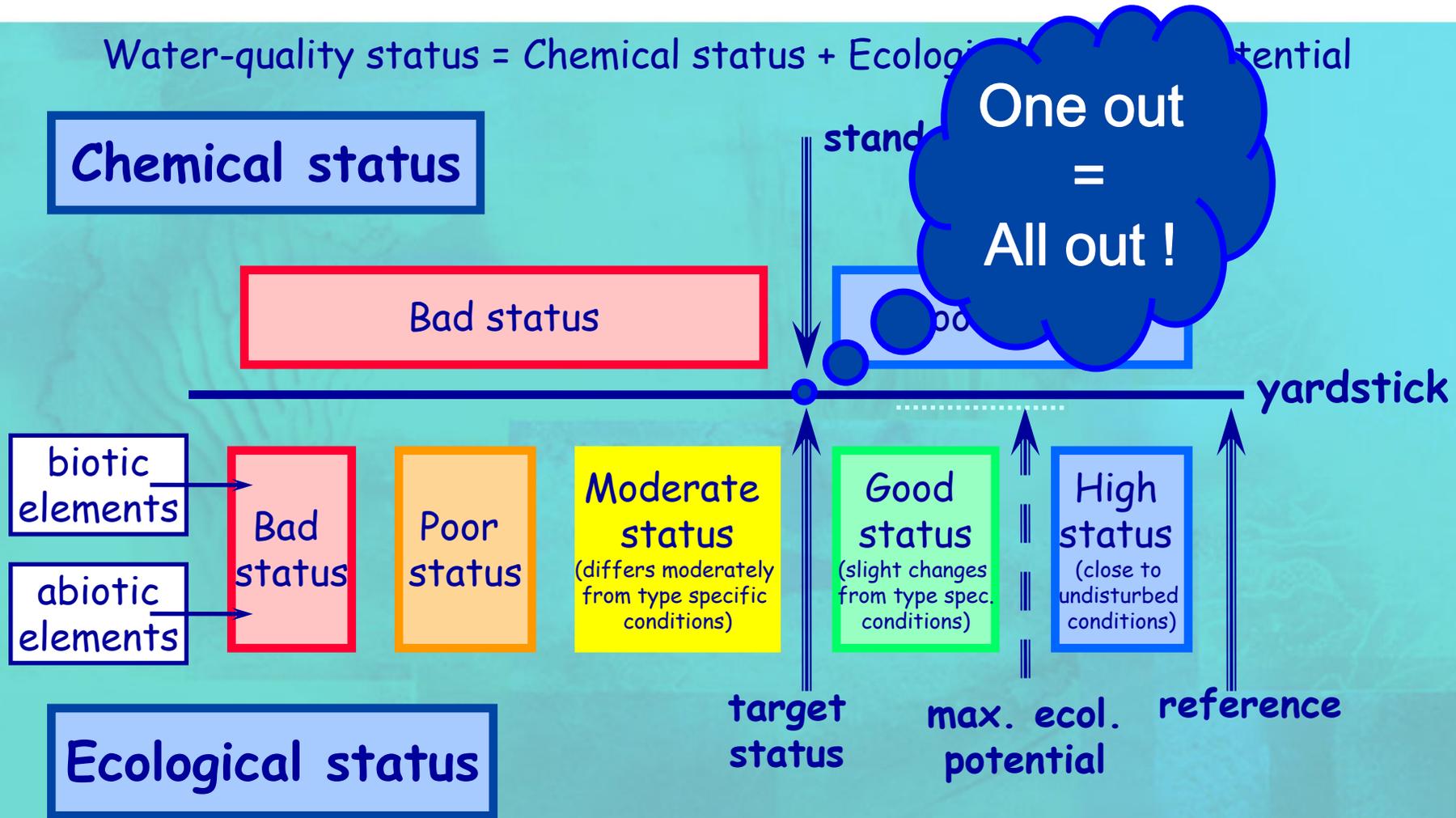
End 2006: Monitoring programs operational

End 2009: River Basin Management Plans published

End 2015: Environmental objectives achieved

# Ecological assessment: classification & presentation

Water-quality status = Chemical status + Ecological status + Potential



# Chemical status: elements

- Priority substances identified as being discharged into the body of water  
Alachlor, Anthracene, Atrazine, Benzene, Brominated diphenylethers, Cadmium and its compounds, C10-13-chloroalkanes, Chlorfenvinphos, Chlorpyrifos, Dichloroethane, Dichloromethane, Di(2-ethylhexyl)phthalate (DEHP), Diuron, Endosulfan, Fluoranthene, Hexachlorobenzene, Hexachlorobutadiene, Hexachlorocyclohexane (gamma-isomer, Lindane), Isoproturon, Lead and its compounds, Mercury and its compounds, Naphthalene, Nickel and its compounds, Nonylphenols, (4-(para)-nonylphenol), Octylphenols (para-tert-octylphenol), Pentachlorobenzene, Pentachlorophenol, Polyaromatic hydrocarbons, (Benzo(a)pyrene), (Benzo(b)fluoranthene), (Benzo(g,h,i)perylene), (Benzo(k)fluoranthene), (Indeno(1,2,3-cd)pyrene), Simazine, Tributyltin compounds (Tributyltin-cation), Trichlorobenzenes (1,2,4-Trichlorobenzene), Trichloromethane (Chloroform), Trifluralin
- Other substances identified as being discharged in significant quantities into the body of water

# Ecological status: elements

Quality-element					
Phytoplankton					
Phytobenthos		X	X		
Macrophytes		X	X		
Macro-algae				X	X
Angiosperms				X	X
Benthic invertebrate fauna					
Fish fauna					
Hydro-morphological elements		X	X	X	X
Physico-chemical elements					

Biological quality elements: species composition and abundance

Flow dynamics, width, depth, substrate, etc.

Salinity, pH, Oxygen, T, nutrients, etc.

# The objective of monitoring

To establish a coherent and comprehensive overview of water status within each River Basin District that must permit the classification of all surface water bodies into one of five classes and groundwater into one of two classes (Guidance WG 2.7)

# Different types of monitoring

- Surveillance monitoring:  
if all is according to expectations
- Operational monitoring:  
if something specific is wrong
- Investigative monitoring:  
if something unknown is wrong

# Surveillance monitoring

- Validating impact assessment procedure
- Assessment of long-term changes
- Design of future monitoring programmes
- Assessment of overall surface water status
- Once every 6 years
- All biological, hydromorphological and general physico-chemical quality elements
- Priority list substances discharged into the river basin
- Other pollutants discharged in significant quantities into the river basin
- Sufficient water bodies to provide an assessment of the overall surface water status

# Operational monitoring

- Assess status of all water bodies being at risk of failing to meet objectives
- Assess the effects of programme of measures
- Minimum-frequency depending on relevant quality-elements
- Those biological and hydromorphological quality elements most sensitive to the pressures
- All water bodies identified as being at risk of failing the environmental objectives
- All water bodies into which priority substances are discharged
- Similar water bodies may be grouped and representatively monitored

# Investigative monitoring

- Where the reason for exceedances is unknown
- Where surveillance monitoring indicates that good status is not likely to be achieved and operational monitoring has not already been established
- To ascertain magnitude and impacts of accidental pollution
- Designed to the specific case or problem being investigated

# When is monitoring needed?

If: status is good and there is no evidence that that impacts have changed

→ Surveillance monitoring once in 18 years

Else:

→ Surveillance monitoring once every 6 years

If: water body is at risk of failing to meet the environmental objectives

→ Operational monitoring

If: the reason for any exceedance is unknown

→ Investigative monitoring

# The objective of monitoring

- To make it plausible that the Member State has done what it should to to reach the WFD objectives

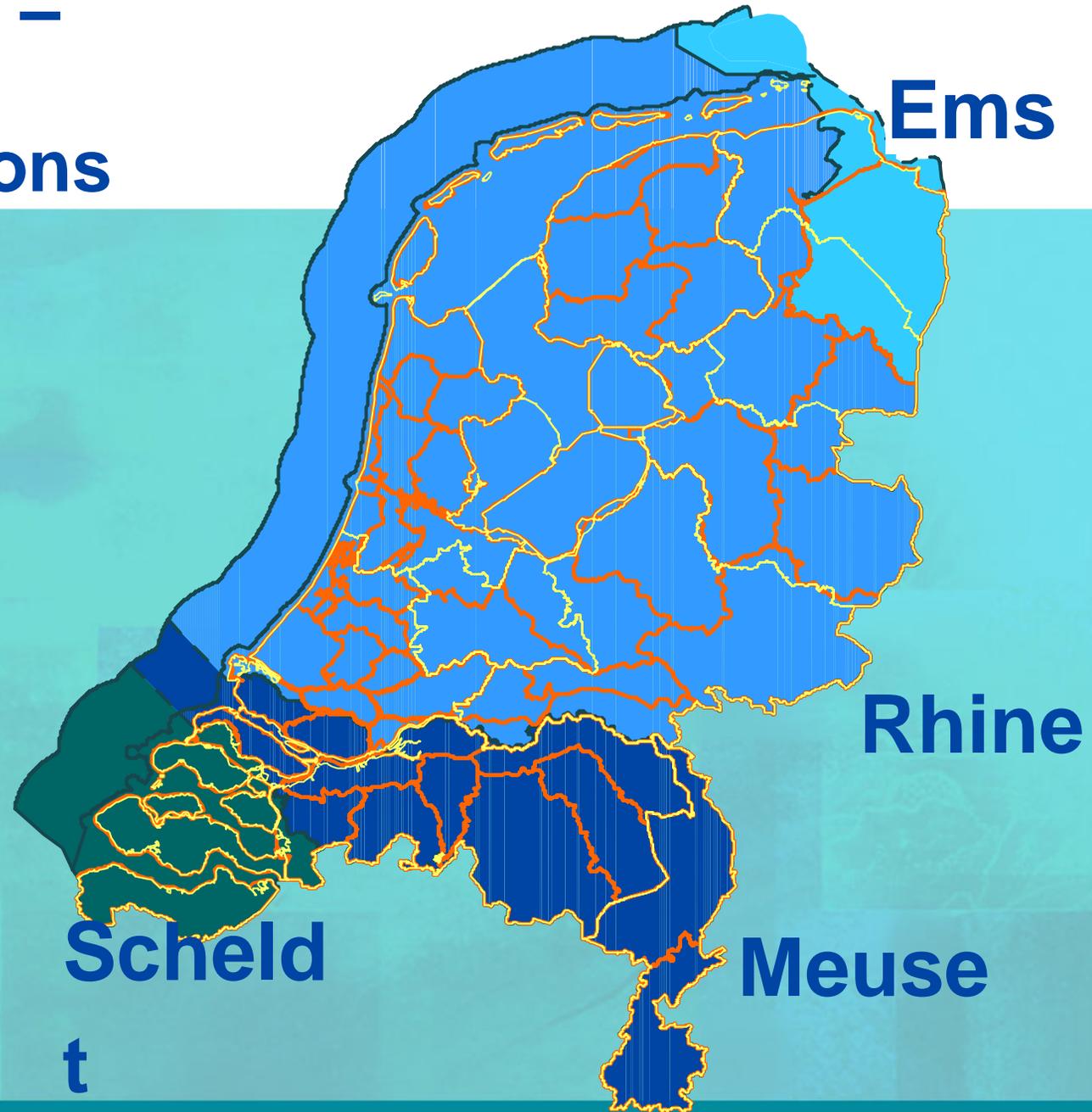
# The River Rhine Basin

9 Countries

3 Languages



# One country – many administrations







# Preparations for monitoring

- Guidelines ready for ecology and chemical substances
- Discussion on number of waterbodies to be monitored for ecology
- Most of the watermanagers are already monitoring chemicals
- In particular fish monitoring new to many watermanagers

# Some figures:

- 1300 Waterbodies, 40 types, still under discussion
- Only very few natural waters
- Most waters thought to be at risk in 2015
- Managed by 37 watermanagers

## More information

<http://forum.europa.eu.int/Public/irc/env/wfd/library>

<http://www.riza.nl>

<http://www.mtm-conference.nl>

