Mixed Environment Transport External Expert Team (METEET)
Training on Integrated Planning of Inland Waterways Transport Projects

Introduction to legal background for IWT planning

Environment

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Ukraine – web conference, November 25/26, 2021

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EC TREATY OF AMSTERDAM 1997 on EU

"***Environmental protection requirements must be integrated into*** *the definition and* ***implementation of the Community policies****, in particular with a view to promoting sustainable development*."

NAIADES
(Navigation and Inland Waterway Action and Development in Europe) (2006):
The **fifth area** on **waterway infrastructure** asks for a *European Development Plan* for improving and maintaining waterway infrastructures while respecting environmental requirements. The development of waterway infrastructure should happen in a coordinated and integrated way, by fostering the mutual understanding of multi-purpose use of waterways and reconciling environmental protection and sustainable mobility.

TEN-T Guidelines (Regulation 1315/2013):
Art. 15, par. 3(b): "Rivers, canals and lakes are maintained so as to preserve **Good Navigation Status** while **respecting the applicable environmental law**".

Conventions

Danube River Protection Convention (1994)

Legal frame for cooperation to assure the protection of water and ecological resources and their sustainable use in the Danube River Basin. ICPDR is facilitating platform between 15 contracting parties, in particular coordinating WFD and FD implementation (*RBMPs 2009, 2015 and 2021*)

Espoo Convention (1997)

on Environmental Impact Assessment in a Transboundary Context

(Rio) Convention on Biological Diversity (1992)

EU Biodiversity Strategy / Sustainable Development Goals 2015

Ramsar Convention (1971)

on the conservation of internationally significant wetlands and their "*wise use*"

Aarhus Convention (1998)

on access to information, public participation, access to justice in env matters

The economic importance of intact rivers and floodplains

Large rivers: multi-functional role - wide economic benefit on many uses.
Legal protection values the effects and benefits of the free **ecosystem services**:

ECOSYSTEM SERVICE BENEFITS PROVIDED FOR HUMANS BY WETLANDS

SERVICES	COMMENTS AND EXAMPLES
PROVISIONING	
Food	production of fish, wild game, fruits and grains
Fresh water*	storage and retention of water for domestic, industrial and agricultural use
Fibre and fuel	production of logs, fuelwood, peat, fodder
Biochemical	extraction of medicines and other materials from biota
Genetic materials	genes for resistance to plant pathogens, ornamental species and so on
REGULATING	
Climate regulation	source of and sink for greenhouse gases; influence local and regional temperature, precipitation and other climatic processes
Water regulation (hydrological flows)	groundwater recharge/discharge
Water purification and waste treatment	retention, recovery and removal of excess nutrients and other pollutants
Erosion regulation	retention of soils and sediments
Natural hazard regulation	flood control, storm protection
Pollination	habitat for pollinators
CULTURAL	
Spiritual and inspirational	source of inspiration; many religions attach spiritual and religious values to aspects of wetland ecosystems
Recreational	opportunities for recreational activities
Aesthetic	many people find beauty or aesthetic value in aspects of wetland ecosystems
Educational	opportunities for formal and informal education and training
SUPPORTING	
Soil formation	sediment retention and accumulation of organic matter
Nutrient cycling	storage, recycling, processing and acquisition of nutrients

* While fresh water was treated as a provisioning service within the MA, it is also regarded as a regulating servibe by various sectors.

Source: Millennium Ecosystem Assessment (2005) Ecosystems and Human Well-Being: Wetlands and Water. Synthesis. World Resources Institute, Washington, DC

Present EU policy on environment

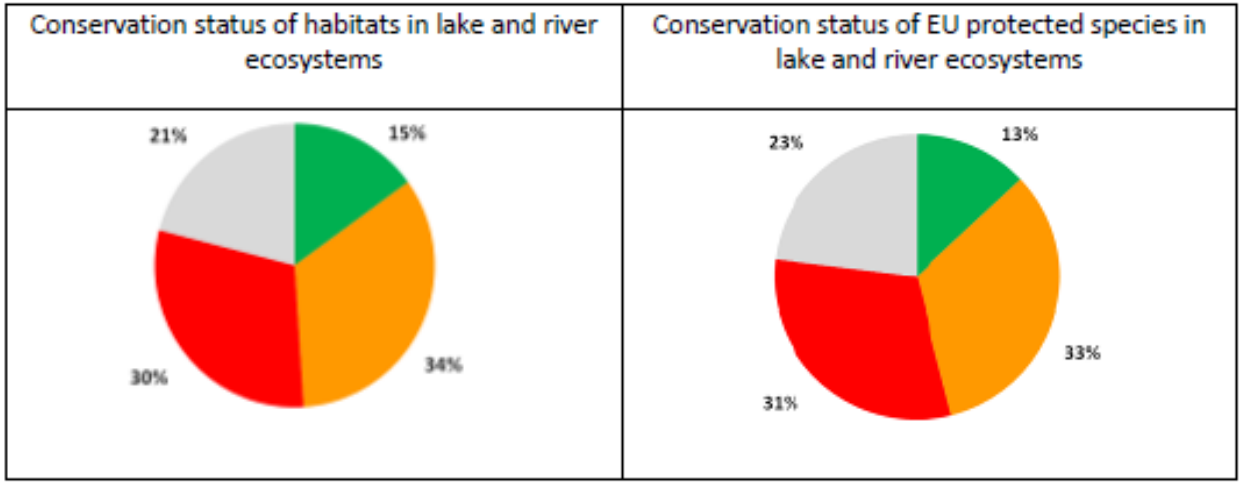
- **Birds Directive** (1979) and **Fauna-Flora-Habitat Directive** (1992), both resulting in the ***Natura 2000*** **network** of sites for biodiversity and nature conservation (based on scientific criteria; no deterioration: maintain or restore the "Favourable Conservation Status" of threatened species and habitats)
- **Water Framework Directive** (2000) for water and river basin management (need to achieve "good ecological and chemical status" at all rivers)
- **Flood Risk Directive** (2007) to assess, manage and reduce the risks at rivers and coasts
- **Environmental Impact Assessment** (EIA) Directive (1985) and Strategic EIA Directive (2001)

Reasons for all these regulations?

In general significant loss of biodiversity and on-going deterioration of environment, in particular in freshwater ecosystems

Applies as well to Danube River Basin:

- Loss and alteration of habitats
- Loss of connectivity for species migration (fragmentation)
- Decline in species diversity and abundance
- Decline of naturally reproducing fish populations
- etc.



Legend: 'favourable' (green), 'unfavourable inadequate' (amber), 'unfavourable bad' (red) or 'unknown' (grey). Source: ETC/BD, 2008.

EU legislation on biodiversity and nature conservation

Birds Directive (79/409/EC) and **Fauna-Flora-Habitats Directive** (92/43/EC)
Implementation through the **Natura 2000 Network,** composed of SPAs and SACs

Birds Directive:

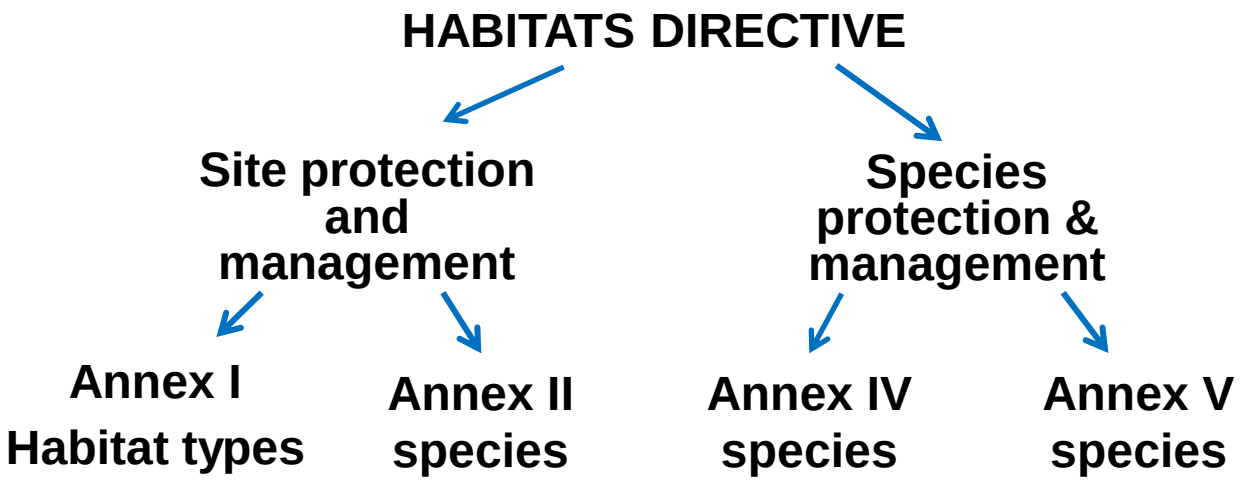
- *Special Protection Areas* for Birds (**SPAs**)
- protection against deterioration, pollution and disturbance (Art. 4(4))

Habitats Directive:

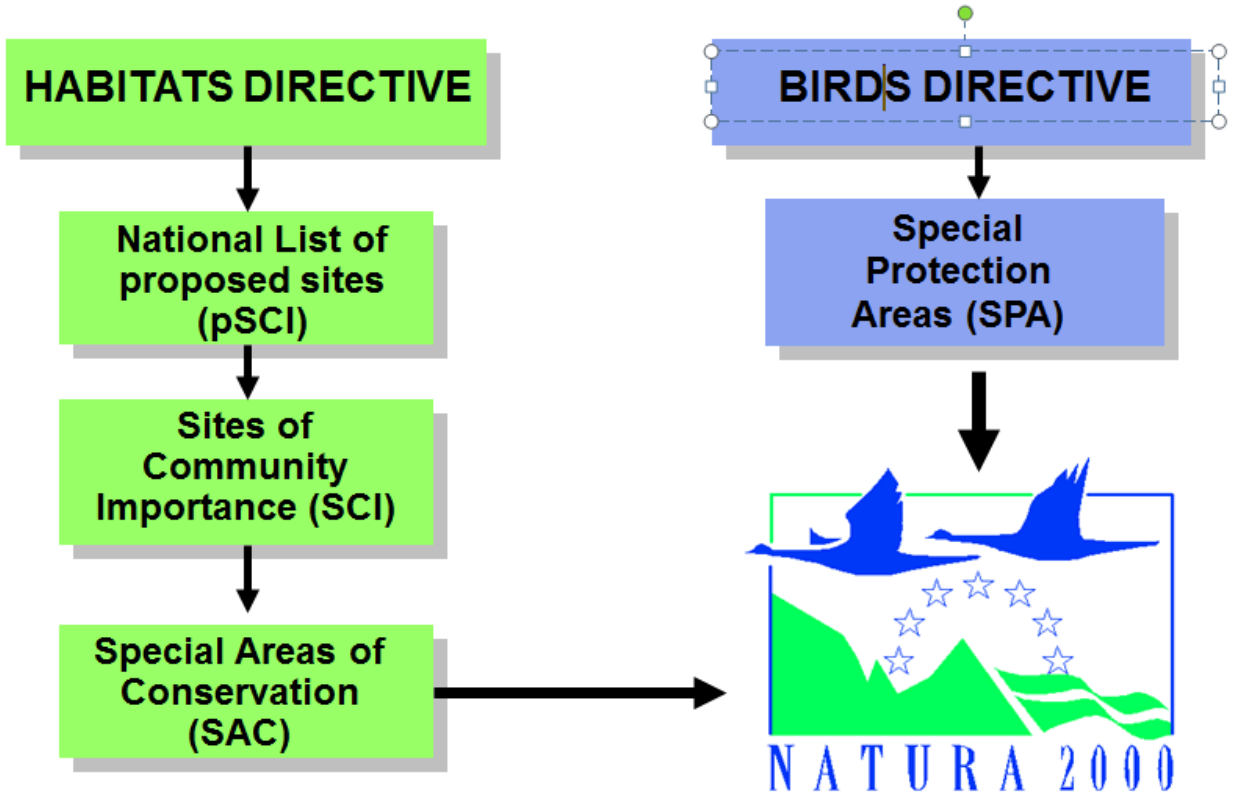
- *Special Areas of Conservation* (**SACs)**
- maintain or restore *Favourable Conservation Status* (FCS)
- Every 6 years **monitoring reports** on evolution of habitats/species (Art. 11)
- Art. 6(2): Assess **plans/projects which could have a negative impact on FCS;**
- For priority habitat or species: seek the opinion of the EC, Art. 6(3) and 6(4).
- **system of strict protection** for listed animal and plant species (Art. 12 + 13)

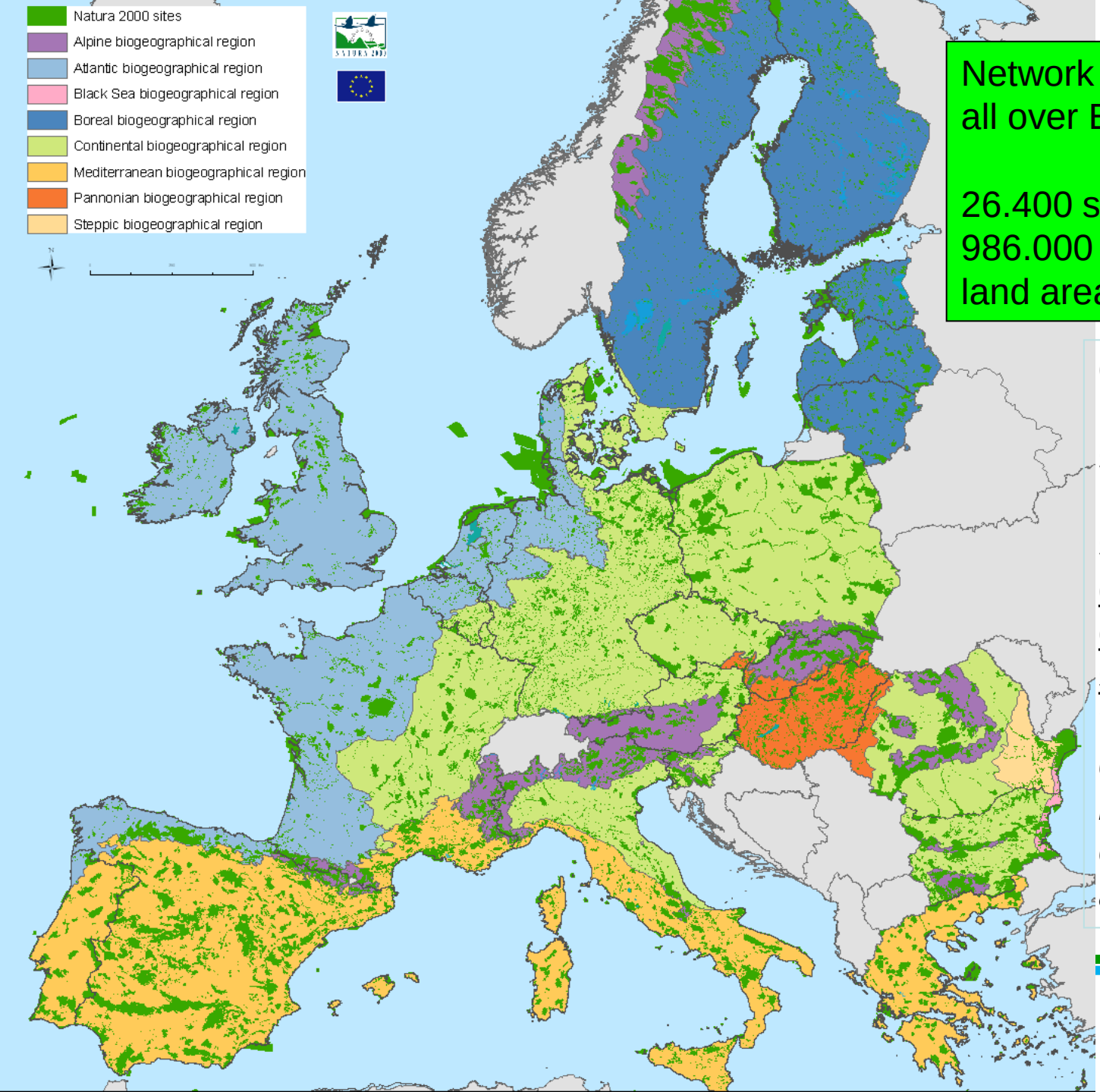
Objective and scope of the Habitats Directive

- Ensuring biodiversity through conservation of natural habitats and species
- To **ensure** that these species and habitat types **are maintained** at, or restored to, a '**favourable conservation status**'.
- Focus on 1000+ threatened plants & animals & ca. 230 habitats



Natura 2000 network – resulting from two EU Directives



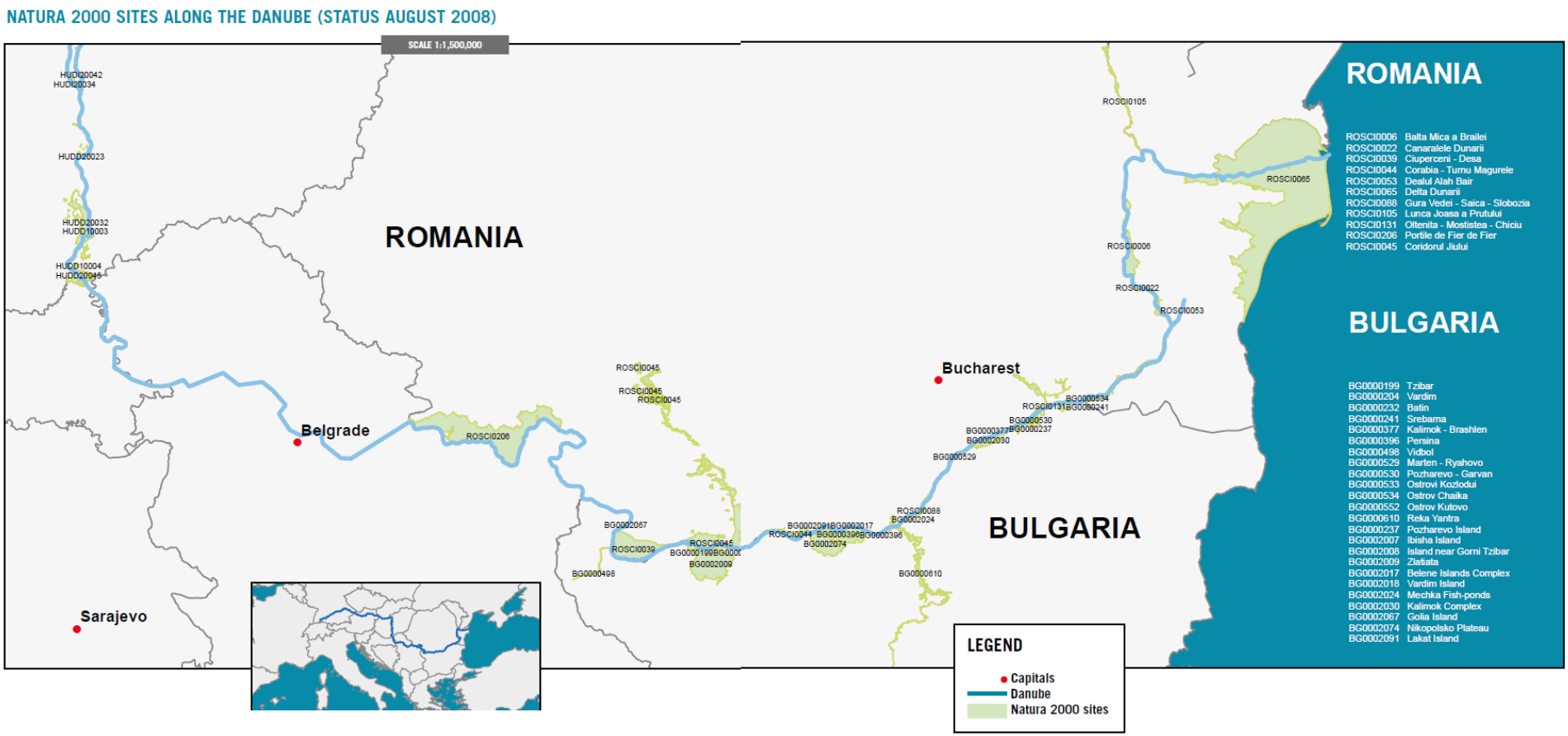


Network of protected areas all over Europe

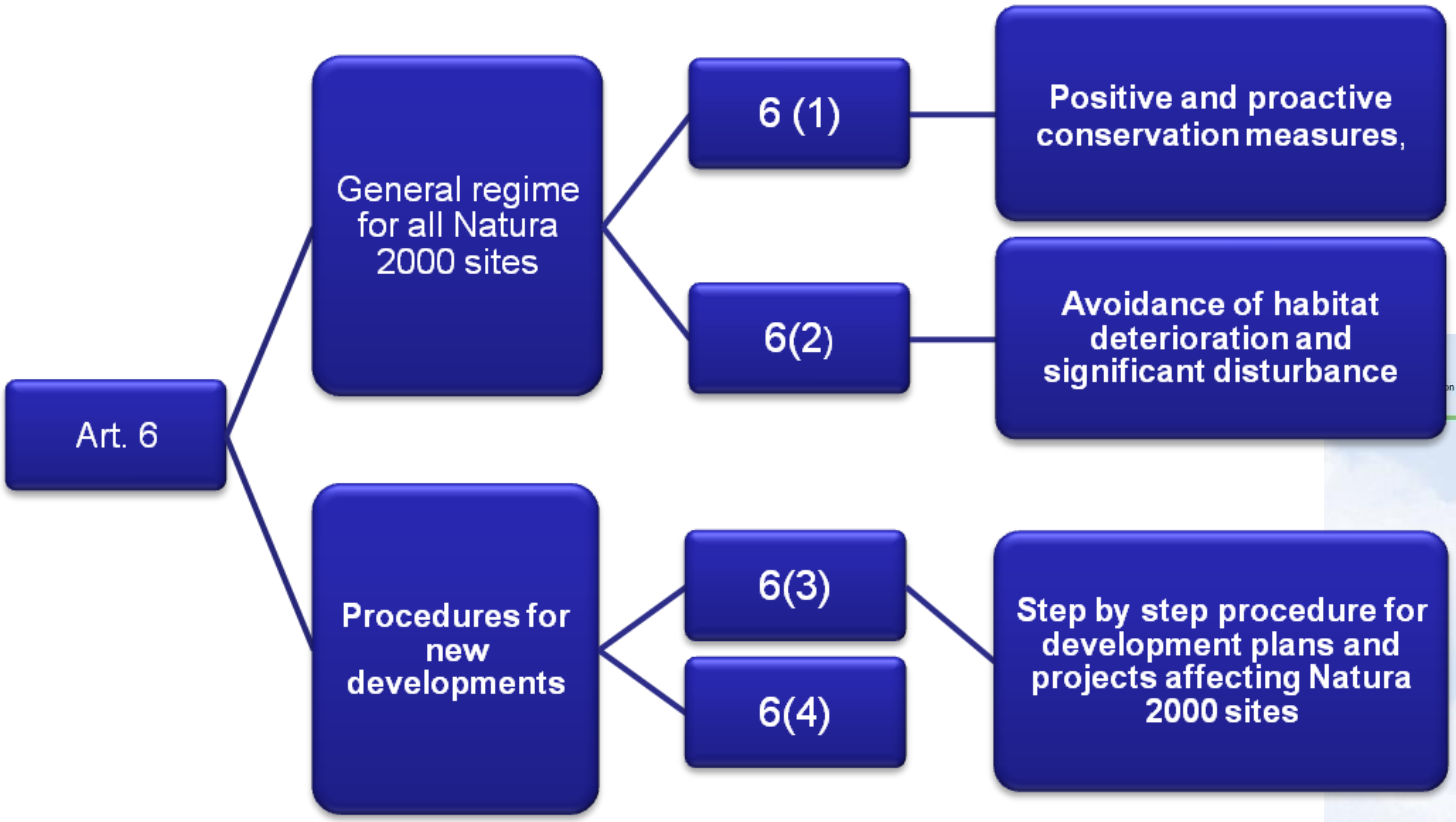
26.400 sites of more than 986.000 km² = 18% of EU land area + 6% of EU seas

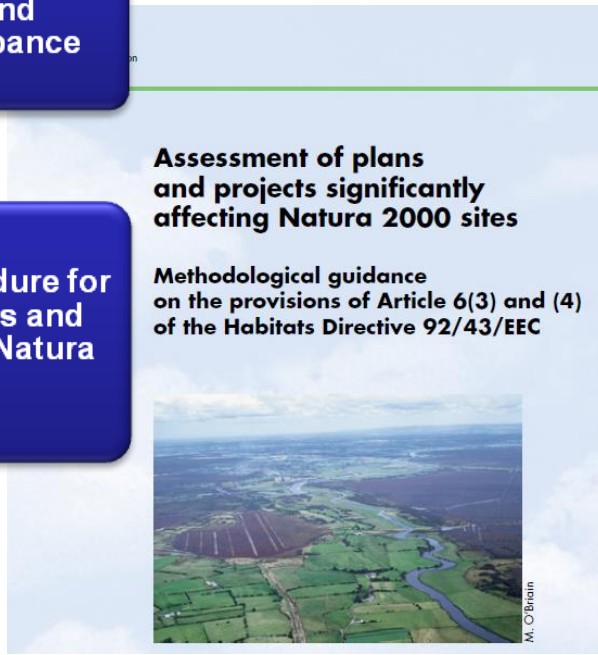
Green Infrastructure: strategically planned network of natural / semi-natural areas to deliver a wide range of ecosystem services such as *water purification, air quality, space for recreation and climate mitigation and adaptation*

Natura 2000 network along Danube River and Delta, Ukrainian part not yet included

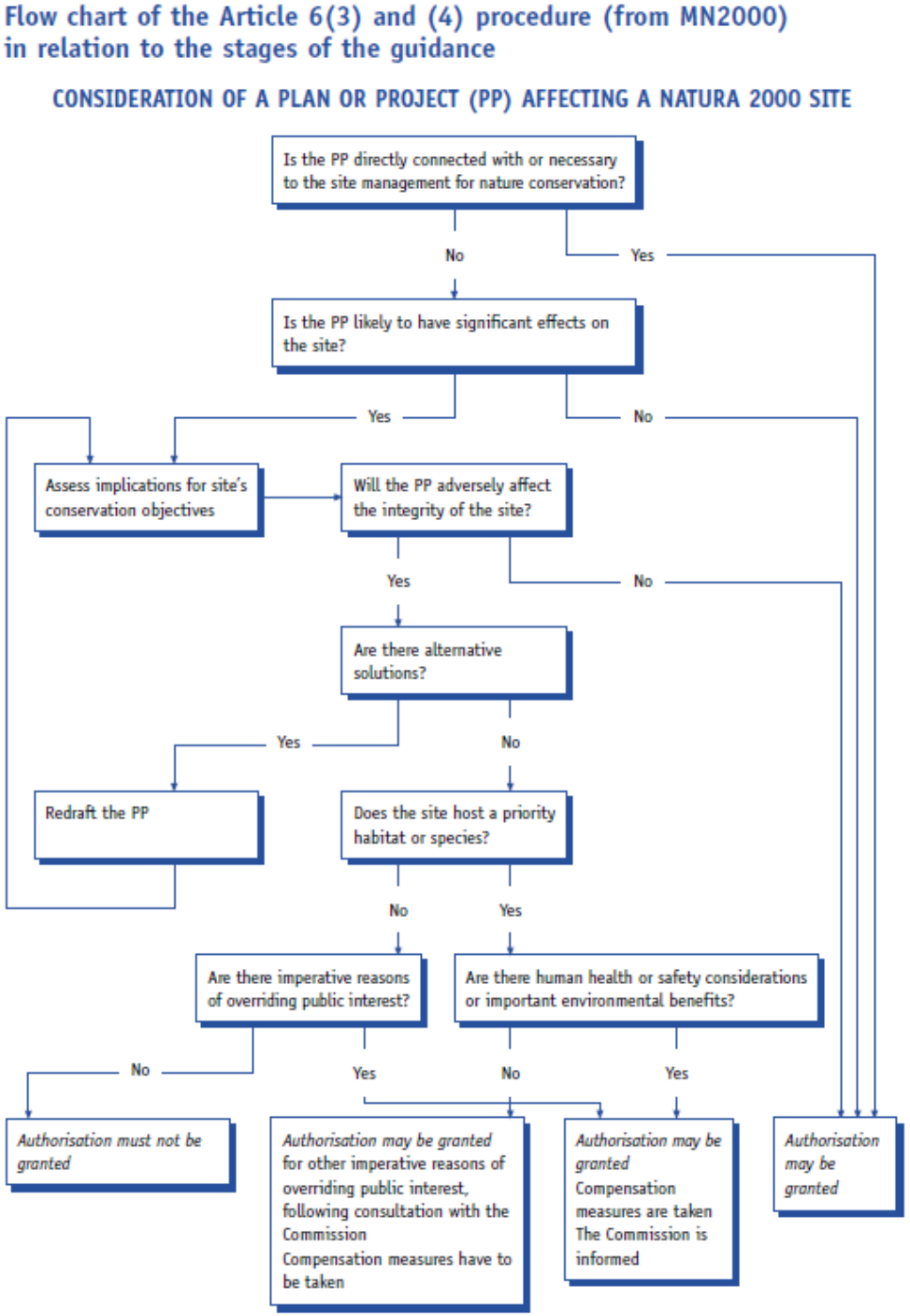


Management Regime for Natura 2000





Appropriate Assessment



Plans or Projects **potentially harming** Natura 2000 sites can be permitted only, if **significant impacts can be excluded.**
Otherwise a **strict derogation** regime has to be implemented.

Guidance on IWT and Natura 2000 (2012)

Aimed at

- competent authorities,
- developers of IWT infrastructure
- N2000 experts involved into planning, design, implementation or approval of IWT plans and projects

Important reference
PLATINA Manual

European Commission

EU Water Framework Directive (WFD)

Scope, objectives and tools

- **Scope**
  - Protection and management of all waters, including rivers, lakes, transitional-, coastal- and groundwater
  - **Covering all impacts on waters**

- **Objectives**
  - Protect and enhance water bodies
  - **Achievement of good status / potential**
  - **No deterioration**
  - Exemptions under certain conditions

- **Tools**
  - **River Basin Management Plans and Programmes of Measures**
  - Existing legislation: urban waste water treatment, nitrates from agriculture, habitats, etc.
  - Public participation

Water status classification

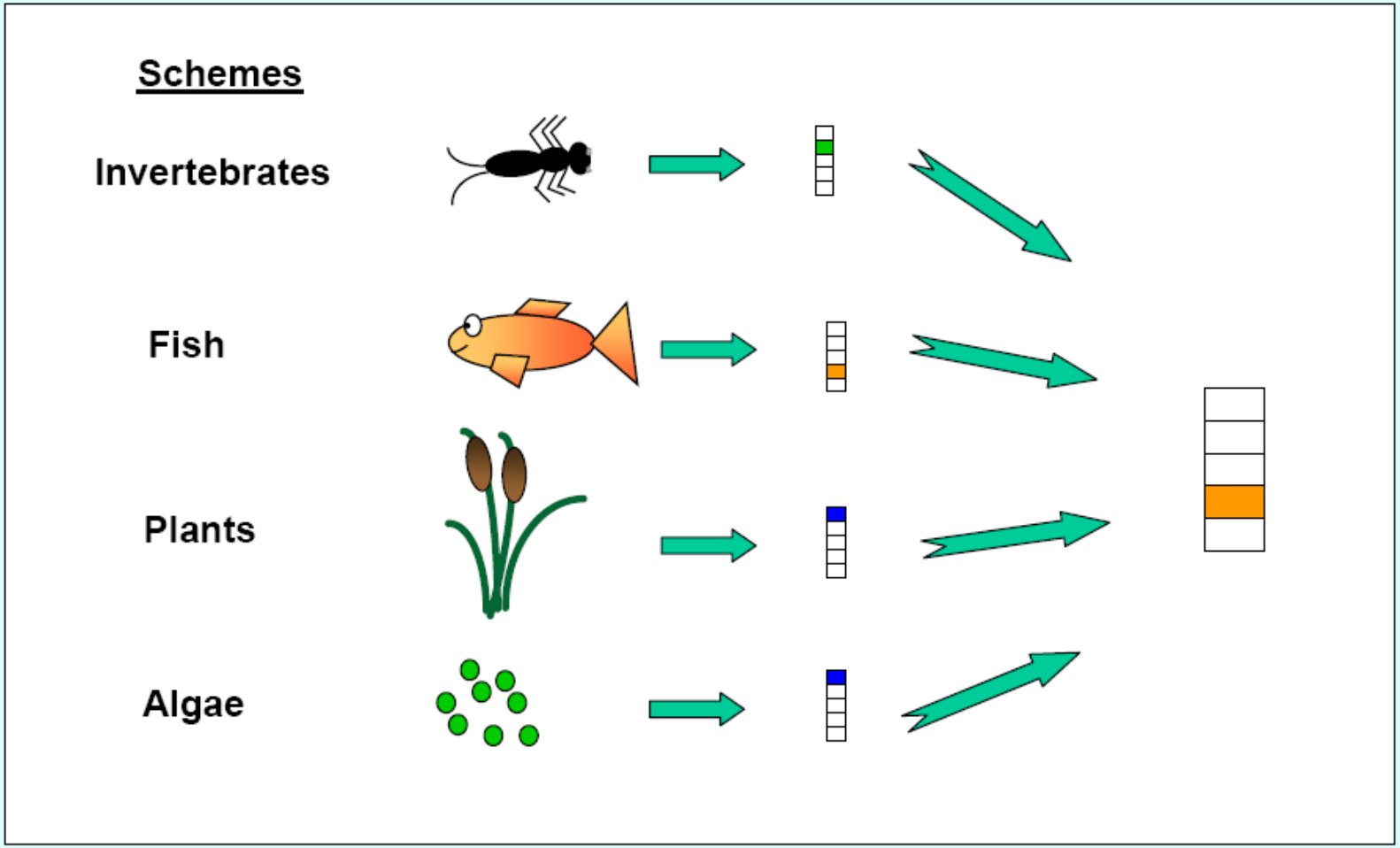
Good surface water status

Good **ecological** status	Is an expression of the quality of the structure and functioning of aquatic ecosystems including: **biological, hydromorphological and physico-chemical elements**	High Good Moderate Poor Bad
Good **chemical** status	Means meeting all **environmental quality standards** for chemicals set at EU level in Directive 2008/105/EC (priority substances)	Good Failing to achieve good

Good groundwater status

Good **quantitative** status	Means ensuring a **long-term balance** between abstraction and recharge, protecting as well associated surface waters and ecosystems.	Good Poor
Good **chemical** status	Means meeting all standards for chemicals, either set at EU level (pesticides and nitrates) or at national level (threshold values)	Good Poor

Delineation and Classification of every Water Body

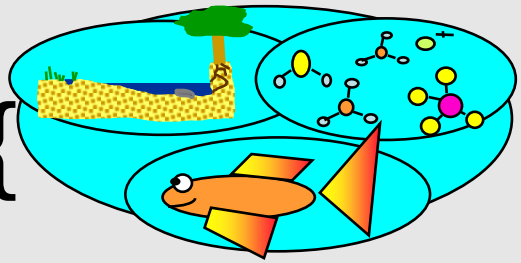


Ecological status

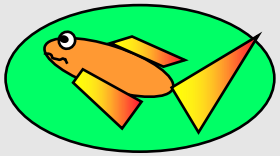
ENVIRONMENT AGENCY AUSTRIA umweltbundesamt

no deterioration!

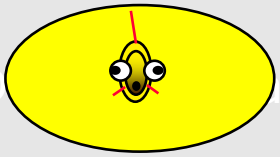
No or Minimal community alteration



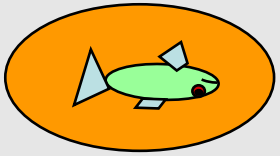
Slight



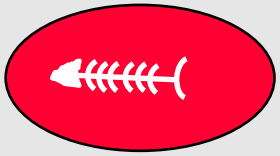
Moderate



Poor



Bad



Reference condition
HIGH

GOOD

MODERATE

POOR

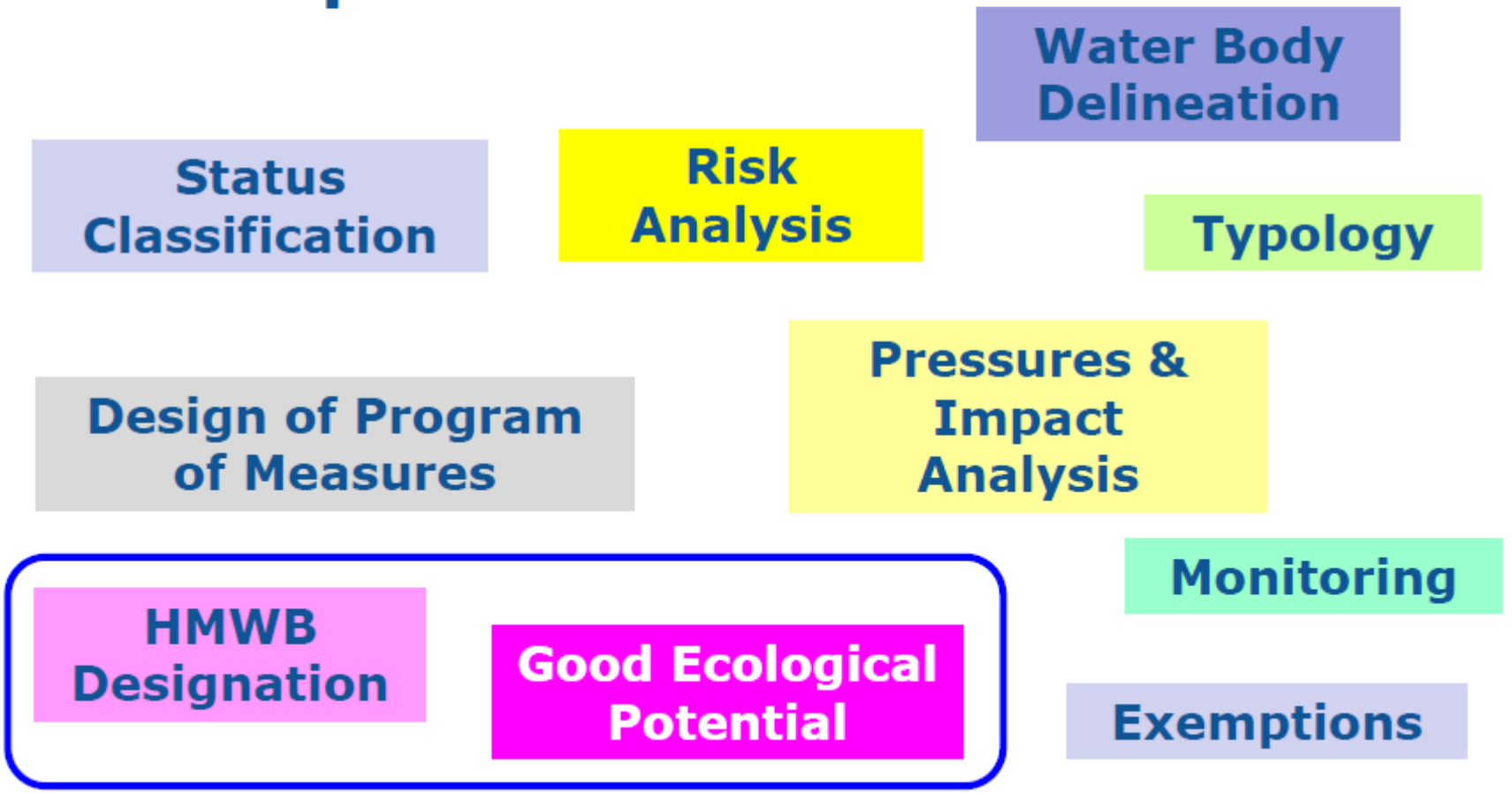
BAD

Restore

Key principles of WFD

- Integrated management of water resources on the **basin-wide scale**
- Taking into account and addressing all **pressures and impacts** (incl. information gaps)
- **Legal requirement** is to achieve by 2015 (2021/**2027**) the **environmental objectives** (*good water status/potential*)
- Basis: Comprehensive status reports (2004) and **River Basin Management Plans** incl. a **Programme of Measures** (2009; 2015; final 2021) to achieve WFD objectives

Hydromorphology plays a key role for WFD implementation



Key challenges of Danube River Basin Management Plan

Organic Pollution

Nutrient Pollution

Hazardous Substances Pollution

Hydromorphological Alterations

⇨ Plus: Transboundary GW bodies of basin-wide importance

Hydromorphological Alterations

River and Habitat Continuity Interruption (*dams*)

Disconnection of adjacent Floodplains (*dikes*)

Hydrological alterations (*diversion; peak operation*)

Future Infrastructure Projects (a.o. IWT)

Challenge with correct implementation

- Designation of every **water body** status (e.g. ***good, moderate, poor***) requires first a **biological validation** with defined assessment and monitoring methods
- the quality status of
  - ✓ **Hydromorphology** (morphological and hydrological features)

  and of the following four **biological quality elements** (BQEs):
  - ✓ **Fish and Zoobenthos** (water insects) and
  - ✓ **Macrophytes/Phytobenthos and Phytoplankton**.

Waterbody designated as heavily modified (HMWB):

- **No deterioration clause** mandatory as well
- Requires restoration measures for achieving **Good Ecologial Potential**

Common Implementation Strategy (CIS) to assist MS in implementing WFD

- EU Member States (MS), EFTA countries and the Commission are addressing challenges in co-operative and coordinated way since 2001
- More than 35 CIS Guidances on different WFD aspects, including hydromorphology and HMWB
- **CIRCABC - the Information Exchange Platform**: *Communication and Information Resource Centre for Administrations, Businesses and Citizens* *https://circabc.europa.eu/*

WFD Article 4(7): possible implications for inland waterway development

Typical hydromorphological modifications

- River training structures (e.g. groyns, bank reinforcement)
- Excavation and disposal of dredged material
- Vessel operation (turbidity, waves, riverbed disturbance)
- Impoundment (river barrages)

WFD Article 4 (7)

New modifications not allowing to achieve the good water status and/or leading to deterioration are only allowed under the following **conditions**:

- all practicable mitigation measures implemented
- Justification: no alternative, economically viable and environmentally better options
- Overriding public interest demonstrated: development outweighs the WFD benefits
- Reasons for development reported in the RBMP

New projects may impact WFD water body status

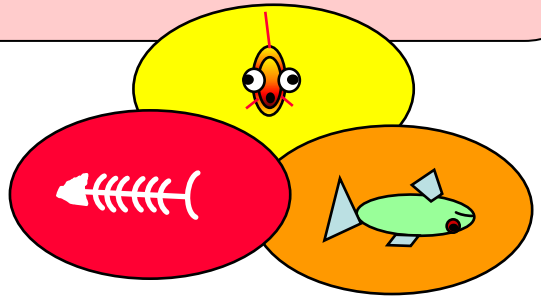
New hydromorphological modification
or
Alteration to the level of groundwater
or
New sustainable human development activity

May cause

Deterioration of water body status/potential

or

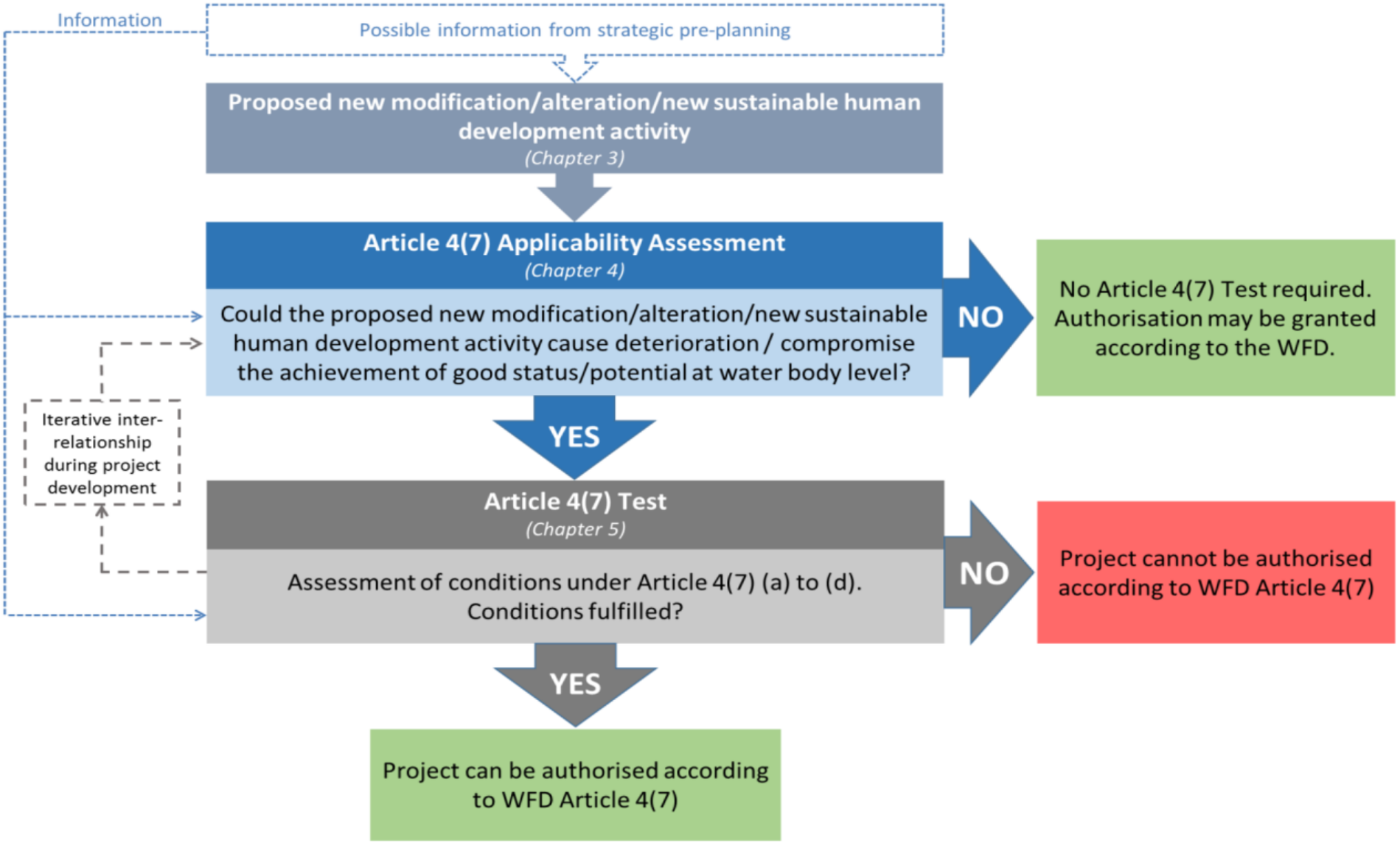
Non-achievement of WFD objectives



For its authorisation, the Project needs to meet the conditions of WFD Article 4.7

Cis-Guidance no. 36 (2017 WFD Article 4(7)

Figure 1: Principle relationship between "Article 4(7) Applicability Assessment" and "Article 4(7) Test"



Surface water body: Example for deterioration

Example 1 – Deterioration of overall status

Starting point: Overall ecological status determined by quality element in worst condition (in this case moderate).

Effect due to modification: Overall status may deteriorate due to deterioration of individual quality elements (in this example benthic invertebrate and fish fauna as an effect of deterioration of morphology), therefore triggering an Article 4(7) Test. The example includes in this case a change in overall status of the water body from moderate to poor.

Quality elements	Biological quality elements			Hydromorphological quality elements supporting the biological elements			Chem. and phys. chem. quality elements supporting the biological elements		Overall ecological status
	Aquatic flora	Benthic invertebrate fauna	Fish fauna	Hydrology	Morphology	Continuity	General conditions	River basin specific pollutants	
Starting point	2	2	3	worse than 2**	2*	worse than 2**	2*	2	3
Effect due to modification	2	3	4	worse than 2**	worse than 2**	worse than 2**	2*	2	4

Deterioration

Important issues related to WFD Art. 4.7

- Assessment required in advance: will planned project cause deterioration / Water Body cannot achieve the WFD objectives?
- If deterioration/non-achievement is expected: Project needs to meet Art. 4.7 conditions for authorisation
- Completing an EIA does not guarantee the fulfilment of the WFD obligations, since specific assessments are needed, however
- Potential synergies with EIA/SEA and Habitats Directive are significant - MS are encouraged to exploit them at national level (e.g. data collection, consultation processes)
- National legal frameworks should allow for effective application
- Technical and environmental expertise needed – exchange with River Basin Management / water authority
- Transparency is important and the assessment and conclusions need to be documented in the River Basin Management Plan

EU Floods Directive (Art. 14)

*"**Flood risk management plans** should focus on **prevention, protection and preparedness**. With a view to giving rivers more space, they should consider where possible the maintenance and/or restoration of floodplains, as well as measures to prevent and reduce damage to human health, the environment, cultural heritage and economic activity."*

Article 9

Member States shall **coordinate** the application of the **FD and WFD**, focusing on opportunities for improving efficiency, information exchange and for **achieving common synergies and benefits**:

- Flood hazard and risk maps with the WFD Article 5 analysis
- FRMPs should be coordinated and integrated with the RBMP
- Coordinate the active stakeholder involvement with those of WFD

Environmental Assessment (SEA, EIA)

Strategic Environmental Assessment (SEA) Directive (2001/42/EC):
integration of environmental consequences in certain plans and programmes;
to be assessed during their preparation and before their adoption:

- promote sustainable development
- helps to early prevent costly mistakes (alternative development options).

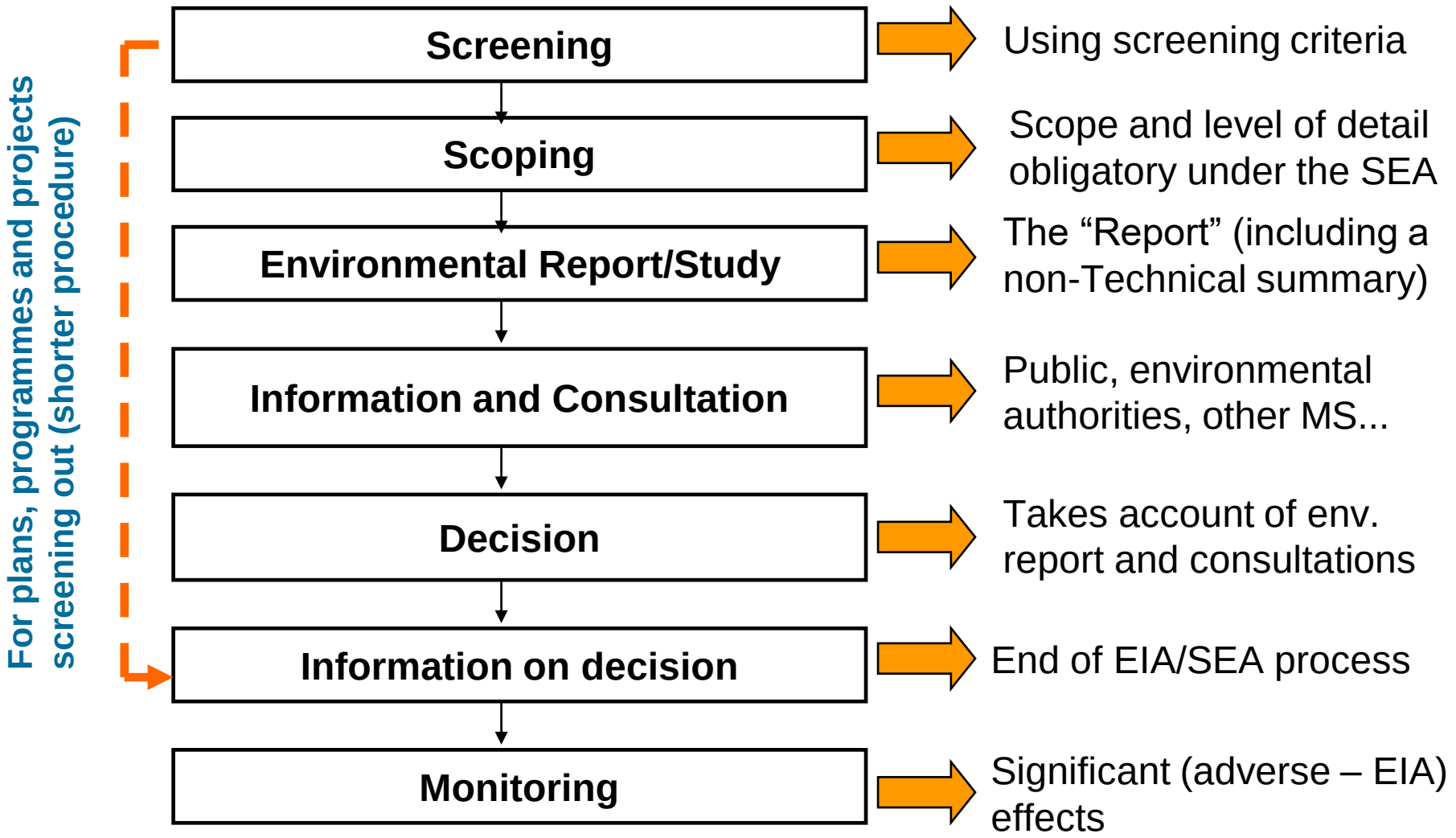
Environmental Impact Assessment (**EIA**) **Directive** (85/337/EEC):
ensures that environmental consequences of projects are identified and assessed before authorisation is granted.

Guiding principle for both EIA/SEA
Plans, programmes and projects which are **likely to have significant effects** on the environment are **subject to an assessment**.

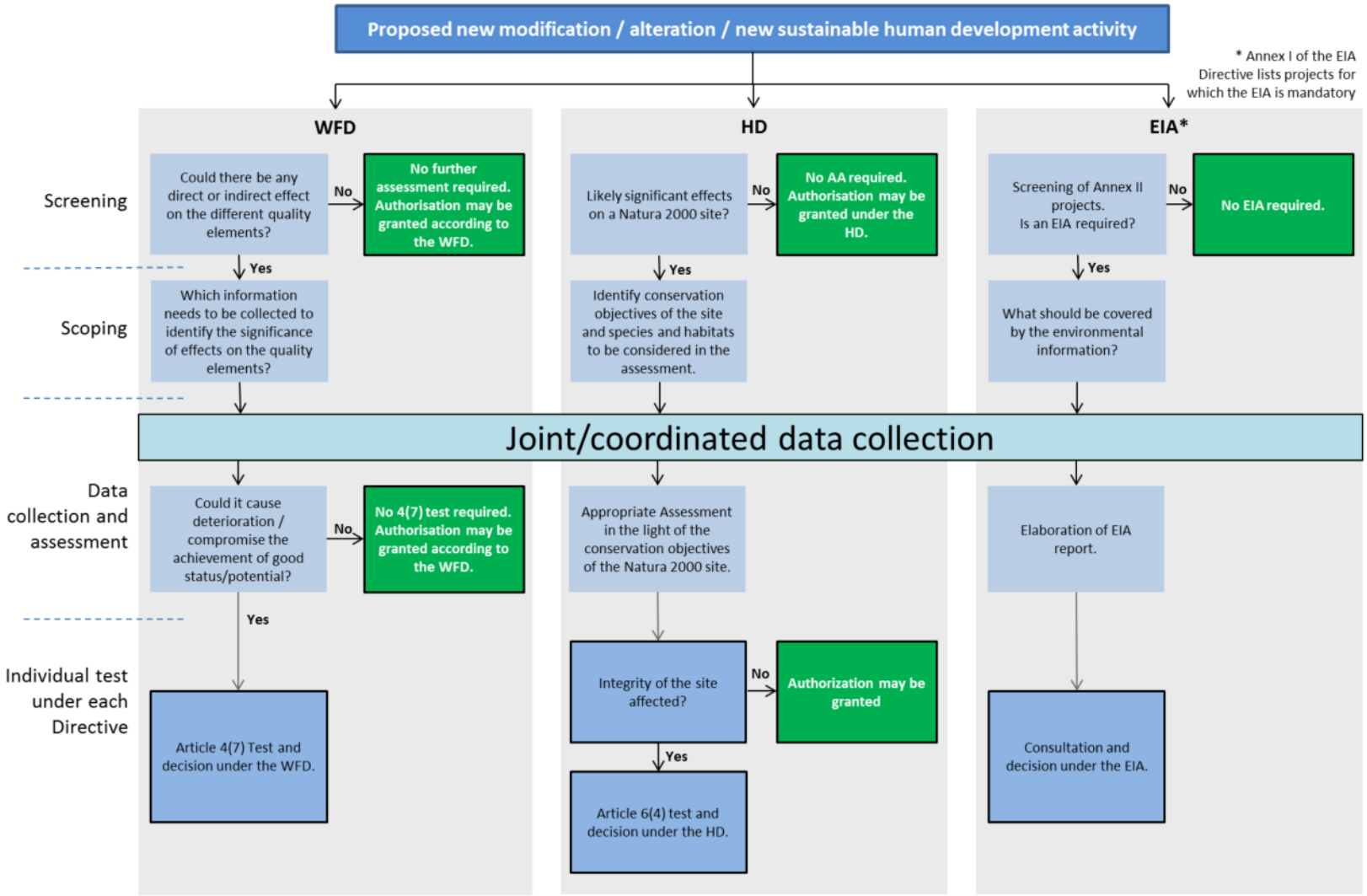
The complex legal requirements for environmental impact assessments of infrastructure projects can be also handled in a

combined EIA process
(general EIA, the WFD's Art. 4(7) and the BHD's Nature Impact Assessment).

Flowchart for Environmental Assessment Procedure



Potential for streamlining of assessments WFD, HD and EIA



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