

## **EU4Environment – Water Resources and Environmental Data (EU4Env Water & Data)**

### **Terms of References for the performance of a hydromorphological monitoring of costal and transitional water located from Sarpi to Anaklia in Georgia**

#### **1. Financing**

European Union (ENI/2021/424-550)

#### **2. Procedure**

Direct award procedure pursuant to sec. 46 BVergG 2018 of Austria and in line with the Umweltbundesamt GmbH's internal procurement regulations

#### **3. Contracting Authority**

Umweltbundesamt GmbH (UBA)

#### **4. Thematic Leader**

Umweltbundesamt GmbH (UBA)

#### **5. Nature of contract**

Service contract

#### **6. Indicative time period of implementation**

April 2023 – November 2023

#### **7. Contract amount**

Max 10.000.- Euro

#### **8. BACKGROUND INFORMATION**

The Programme EU4Environment – Water Resources and Environmental Data (EU4Env) aims to operationalise several key mechanisms to preserve natural resources, thus improving people's wellbeing in the European Union's Eastern partner (EaP) countries while enabling countries' green growth in line with the European Green Deal and a post-COVID-19 green recovery. This will contribute towards longer term environmental, climate, and socio-economic resilience, improved human health and wellbeing, as well as the achievement of the Sustainable Development Goals (SDGs).

The monitoring of coastal and transitional waters (CTW) in Georgia, initiated under the previous EUWI+ project, remains an important action under the EU4Env programme, Output 1.4 (New approaches to water monitoring continue to be supported). As coastal and transitional waters are the basic monitoring

units under the EU Water Framework Directive (WFD), the coastal strip from Sarpi to Anaklia has already been delineated into water types and water bodies according to the WFD System B (system with mandatory and optional delineation factors). According to this draft delineation (Annex 1.1.), 11 coastal and 5 transitional waters were identified in this area. Considering that natural conditions in some parts of the coastal strip from Sarpi to Anaklia are significantly modified, 2 of the 11 identified coastal water bodies (Batumi and Poti Ports) have been designated as candidates for heavily modified water bodies (HMWBs).

All identified coastal and transitional water bodies are currently undergoing a verification process (Annex 2, Figure 1) based on recently obtained monitoring data, including ecological status, substrate composition, and surface salinity distribution in specific water bodies. Data on the hydromorphological (HYMO) status of water bodies are still needed to fulfil the verification process.

The most important quality elements (QEs) for determining hydromorphological status in CTW bodies are tidal regime and morphological conditions. The condition of these QEs is based on the degree of change in natural conditions (generally as a result of physical alteration by human activities) in freshwater flow, direction of prevailing currents, depth variation, substrate structure, etc., in specific water bodies (Annex 2, Figures 2 and 3). Some typical activities that have negative impacts on hydromorphology and aquatic ecology are listed in Table 1 in Annex 2.

Based on HYMO monitoring results, the hydromorphological status of water bodies is classified as high, good, moderate, poor, or bad. In case of HYMO assessment as high or good, the overall status of a surface water body is described by its ecological and chemical status (Annex 2, Figure 4), while in case of moderate, poor or bad HYMO assessment, the overall status is described by the ecological potential and chemical status of a water body. Those water bodies that do not achieve at least good HYMO status are declared heavily modified water bodies (HMWBs) (Annex 2, Figure 1). In addition to HMWBs, the WFD also recognises artificial water bodies (AWBs), which are surface water bodies created by human activities. The status of artificial water bodies is also assessed based on their ecological potential and chemical status.

Further information on the WFD and associated guidance documents can be downloaded (see links in Annexes 1.2. – 1.4.).

## **9. SCOPE OF WORKS AND DELIVERABLES**

The selected Expert for this assignment will perform the following tasks:

### **General tasks**

1. Development of a national methodology for the assessment of the hydromorphological status of coastal and transitional water bodies appearing in Georgia
2. Performance of one hydromorphological monitoring including all coastal and transitional water bodies with photo documentation of the monitoring in particular water bodies
3. Assessment of the hydromorphological status for all coastal and transitional water bodies including identification of HMWBs and AWBs
4. Contribution to occasional Communication & Visibility (press release, social media posts)

### **Specific tasks**

1. Close cooperation and coordination with the EU4Env Water & Data Programme Representative in Georgia Mr Zurab Jincharadze (z.jincharadze@eu4waterdata.eu) and CTW Expert Grozdan Kušpilić (kuspe@izor.hr) during all phases of the tasks

### Deliverables

The Expert for this assignment will deliver the following main products:

- Preparation of a final report on the developed national methodology for the assessment of the hydromorphological status of coastal and transitional water bodies appearing in Georgia
- Preparation of a final report on the obtained HYMO status including GIS layers in Shape files

The individual deliverables and all data will be prepared in English and Georgian languages and submitted to:

- EU4Env Water & Data Programme Leader, Umweltbundesamt, Mr Alexander Zinke and to EU4Env Water & Data CTW Thematic Leader Mr Robert Konecny and CTW Expert Mr Grozdan Kušpilić
- EU4Env Water & Data Programme Representative in Georgia Mr Zurab Jincharadze

## **10. IMPLEMENTATION MODALITIES**

### Location of services

Georgia

### Assignment schedule

The duration of the assignment is 8 months. The expected commencement of the assignment is April 2023 and the planned completion date **for the:**

- Final report on the developed national methodology for the assessment of the hydromorphological status of coastal and transitional water bodies appearing in Georgia is May 2023;
- Final report on the obtained HYMO status including GIS layers in Shape files November 2023.

### Implementation modality

The Expert has to provide all means and technical equipment (e.g. hardware, software) necessary for a successful implementation of these services.

The Expert has to implement the service in close contact and cooperation with the competent authorities in Georgia.

All correspondence and documents related to the service must be written in English.

The EU4Env Water & Data Programme Representative will support the Expert through helping with organization of necessary meetings and provide logistical and administrative support.

The Expert agrees to adhere to the EU visibility guidelines.

### Reporting

The Expert shall report to the persons mentioned under Deliverables in chapter 9 regarding the progress of services and for all day-to-day management issues.

### Remuneration and payment schedule

The tranches of payment made will be subject to acceptance of the tasks and deliverables and will be defined in the service contract.

## 11. EXPERTISE AND QUALITY REQUIREMENTS OF THE EXPERT

The Expert must have the following qualifications and skills:

- At least 10 years of demonstrated experience in projects related to GIS geographic mapping in Georgia, including the coastal zone
- Experience in hydrology and/or hydromorphology
- Background on basic principles of the Water Framework Directive (WFD)
- Demonstrated successful cooperation with the water-related authorities of Georgia
- Very good proficiency in English language.

## 12. SELECTION AND AWARD PROCEDURE

Potentially qualified candidates will be contacted and invited to submit an Expression of Interest, a Financial Offer and a Proposal related to the HYMO monitoring performance (visual inspection of the coastal zone, use of drones etc) and to the evaluation of the HYMO status (use of historic information, development plans, hydrological and morphological data etc).

The submitted offers will be evaluated by the Thematic Leader and the CTW Expert. The Contracting Authority will award the contract according the best-bidder principle based on the best value for money.

## 13. CONTACT DETAILS

Interested parties (individual and legal persons) are invited to send their technical offer, including CVs of key staff, references, methodology and list of projects implemented, as well as their financial offer by email to the following address:

Email address: [daniela.carretta@umweltbundesamt.at](mailto:daniela.carretta@umweltbundesamt.at)

Email address: [gabriele.vincze@umweltbundesamt.at](mailto:gabriele.vincze@umweltbundesamt.at)

The deadline for submission is **31 March 2023, 12:00 CET**. Tenders submitted after the deadline will not be considered.

The publication of these Terms of Reference does not commit the Contracting Authority to award the announced contract. The Contracting Authority can withdraw from this call at any given time. In no event shall the Contracting Authority be liable for any damages whatsoever including, without limitation, damages for loss of profits, in any way connected with the cancellation of a tender procedure.

Implementing partners



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# ANNEXES

## Annex 1

- 1.1. Delineation proposal for Georgian coastal and transitional waters. Link: [https://drive.google.com/file/d/1pv70CWiGVXIFPKBUHh7qtVpV\\_70CRrLE/view?usp=share\\_link](https://drive.google.com/file/d/1pv70CWiGVXIFPKBUHh7qtVpV_70CRrLE/view?usp=share_link)
- 1.2. The EU Water Framework Directive. Link: [https://eur-lex.europa.eu/resource.html?uri=cellar:5c835afb-2ec6-4577-bdf8-756d3d694eeb.0004.02/DOC\\_1&format=PDF](https://eur-lex.europa.eu/resource.html?uri=cellar:5c835afb-2ec6-4577-bdf8-756d3d694eeb.0004.02/DOC_1&format=PDF)
- 1.3. CIS Guidance document No 5. Link: [https://circabc.europa.eu/sd/a/85912f96-4dca-432e-84d6-a4dded785da5/Guidance%20No%205%20-%20characterisation%20of%20coastal%20waters%20-%20COAST%20\(WG%202.4\).pdf](https://circabc.europa.eu/sd/a/85912f96-4dca-432e-84d6-a4dded785da5/Guidance%20No%205%20-%20characterisation%20of%20coastal%20waters%20-%20COAST%20(WG%202.4).pdf)
- 1.4. CIS Guidance document No 4. Link; [https://circabc.europa.eu/sd/a/f9b057f4-4a91-46a3-b69a-e23b4cada8ef/Guidance%20No%204%20-%20heavily%20modified%20water%20bodies%20-%20HMWB%20\(WG%202.2\).pdf](https://circabc.europa.eu/sd/a/f9b057f4-4a91-46a3-b69a-e23b4cada8ef/Guidance%20No%204%20-%20heavily%20modified%20water%20bodies%20-%20HMWB%20(WG%202.2).pdf)



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## Annex 2

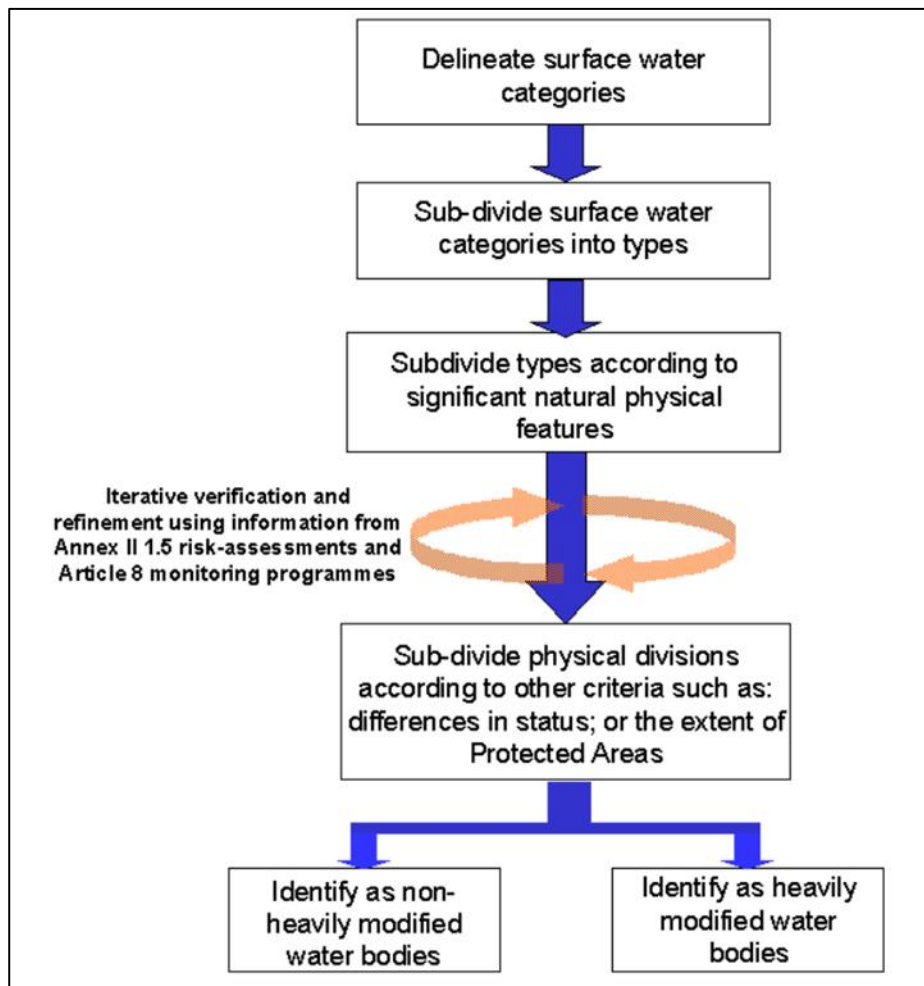


Figure 1. Suggested hierarchical approach to the identification of surface water bodies.



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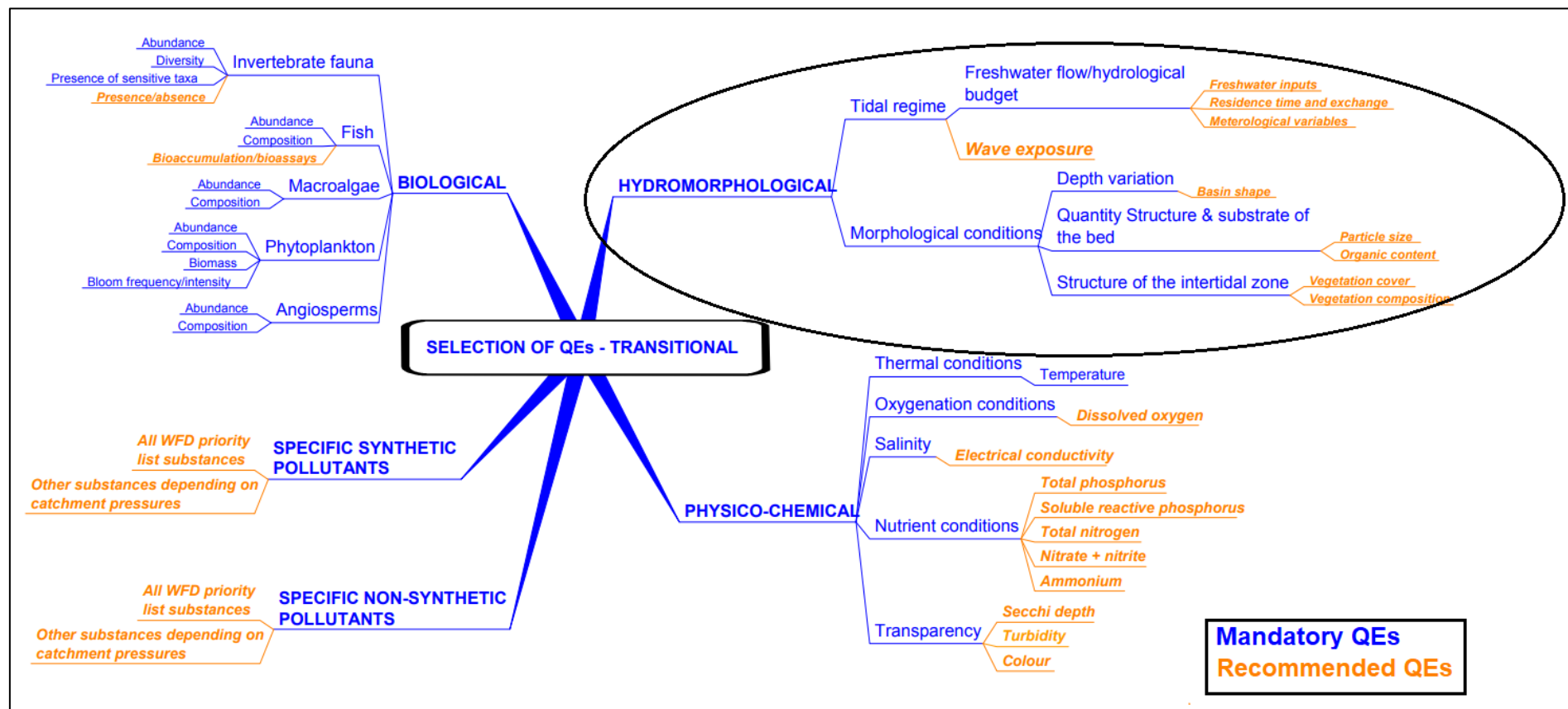


Figure 2. Mandatory and recommended Quality elements for Transitional waters.

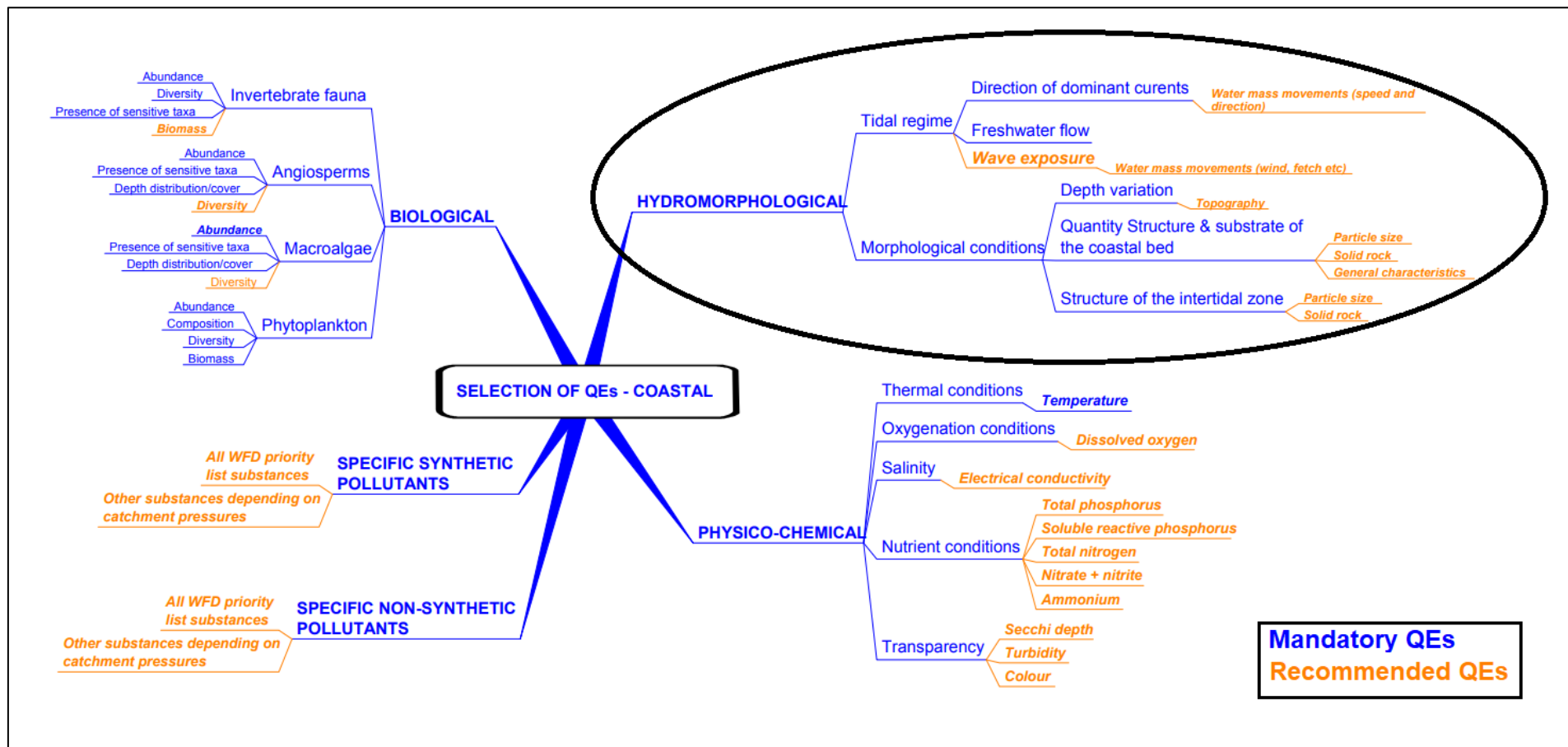


Figure 3. Mandatory and recommended Quality elements for Transitional waters.



Use/activity	Nature of physical modification	Effect on hydromorphology	Ecological impacts
<b>Flood risk management</b>	Hard engineering protection e.g. concrete revetment, concrete and/or stone sea walls	Morphology: - intertidal zone and bed structure - bathymetry change	Changes to / loss of intertidal habitat (benthic communities: macroalgae, invertebrates, angiosperms)
<b>Coastal defence / erosion control</b>	Concrete sea walls, - groins, - sediment filling (artificial beach construction)	Morphology: - depth variation (i.e. loss of natural gradient) - loss of existing natural sediment - intertidal zone structure - sediment input and distribution  Hydrology: - obstructed freshwater inflow and distribution - formation of stagnant water bodies (e.g. trapped near groins)	Changes to / loss of intertidal and shallow inshore habitat (benthic communities: macroalgae, invertebrates, angiosperms)
<b>Barrier, barrage, impounding structure</b>	Sluice for water level management, channel constructions	Hydrology: - freshwater inflow, - salinization - sediment flow  Morphology: - changes of natural sediment accumulation and erosion patterns - bed structure and substrate changes - bathymetry changes (e.g. shallowing)	Loss of continuity for fish passage
<b>Navigation dredging</b>	Dredging for navigational safety	Morphology: - bed structure (e.g. bathymetry changes) - bed substrate  Hydrology: - water quality (e.g. turbidity)	Changes to seabed or intertidal habitat (benthic communities (invertebrates, angiosperms))

<b>Urban development</b>	Embankment, concrete revetment	Morphology: - depth variation (i.e. loss of natural gradient) - loss of existing natural sediment - intertidal zone structure - bed structure - substrate  Hydrology: - freshwater inflow and distribution	Changes to / loss of intertidal habitat (benthic communities: macroalgae, invertebrates, angiosperms)
<b>Land claim, reclamation, realignment</b>	Embankment, concrete revetment, channels	Morphology: - depth variation (i.e. loss of natural gradient) - intertidal zone structure - bed structure - bed substrate - Hydrology: - freshwater inflow and distribution - current velocities	Changes to / loss of intertidal habitat (benthic communities: macroalgae, invertebrates, angiosperms)
<b>Port and harbour infrastructure</b>	Non- or semi permeable protection structures (concrete, stone or synthetic)	Morphology: - depth variation (i.e. loss of natural gradient) - intertidal zone structure - bed structure (e.g. bathymetry changes) - bed substrate  Hydrology: -variation of currents and waves - water quality (e.g. turbidity)	Changes to / loss of intertidal habitat (benthic communities: macroalgae, invertebrates, angiosperms)
<b>Aquaculture</b>	Anchored cages or floating structures (fish and shell fish farms)	Morphology: - bed substrate  Hydrology: -organic enrichment - water turbidity	Changes to / loss of intertidal habitat (benthic communities: invertebrates, macroalgae, angiosperms)

<b>Seabed infrastructure (pipelines, cables, etc.)</b>	Laid and fixed pipes	Morphology: - bed structure and substrate (minor influence)  Hydrology: - temporary water turbidity - water quality in case of disasters	Changes to / loss of intertidal habitat (benthic communities: invertebrates, angiosperms)
<b>Shoreline infrastructure (outfalls, intakes, etc)</b>	Laid and fixed outlets	Morphology: - bed substrate  Hydrology: - organic enrichment - water turbidity - water temperature (e.g. in case of water intake and outfall for cooling systems)	Changes to / loss of intertidal habitat (benthic communities: macroalgae, invertebrates, angiosperms)
<b>Infrastructure supporting recreational use</b>	Delimitation net, embankment (gravel, sand), aqua park structures, artificial beaches, beach replenishment	Morphology: - from minor influence (net) to changes of intertidal zone structure and bed structure - bed substrate  Hydrology: - water quality - water turbidity	Changes to / loss of intertidal habitat (benthic communities: macroalgae, invertebrates, angiosperms)

Table 1. Effects on hydromorphology and ecological impacts due to typical human activities in transitional and coastal waters

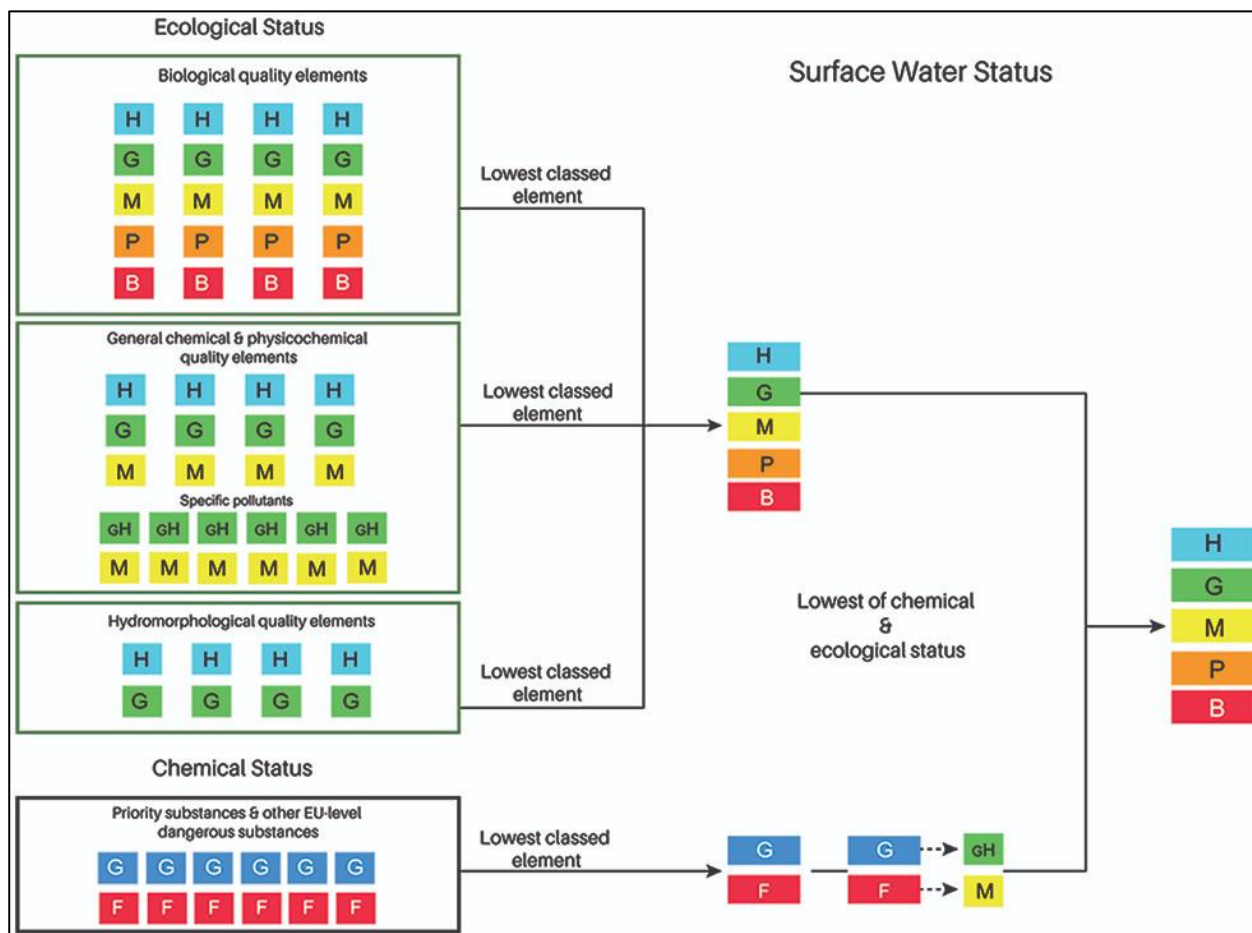


Figure 4. Schematic classification of the surface water status und the Water Framework Directive.

