

	<i>Hydromorphological status of surface waters, Physicochemical status of surface waters and Ecological potential for heavily modified or artificial water bodies</i>
Connection with SDGs	SDG 6 Clean water and sanitation, SDG 11 Sustainable cities and communities, SDG 12 Responsible consumption and production, SDG 13 Climate action, SDG 14 Life below water
Opportunities for participatory data collection	No opportunities identified
Additional information	
References	<p>European Parliament. (2000). <i>Directive 2000/60/EC of the European Parliament and of the Council of 23 October 2000 establishing a framework for Community action in the field of water policy</i>. http://data.europa.eu/eli/dir/2000/60/oj</p> <p>European Parliament. (2006). <i>Directive 2006/118/EC of the European Parliament and of the Council of 12 December 2006 on the protection of groundwater against pollution and deterioration</i>. http://data.europa.eu/eli/dir/2006/118/2014-07-11</p> <p>European Commission. (2012). <i>Report from the Commission to the European Parliament and the Council on the Implementation of the Water Framework Directive (2000/60/EC). River Basin Management Plans</i>.</p>

4.54 Ecological potential for heavily modified or artificial water bodies

Project Name: UNaLab (Grant Agreement no. 730052)

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Ecological potential for heavily modified or artificial water bodies	Water management
Description and justification	Water covers ca. 71 % of the Earth's surface but only 2.5 % of it is fresh, stored as groundwater and in glaciers. Water is vital for living organisms, and it enables a multitude of human activities such as agriculture, manufacturing and transportation of goods. Available water resources are being extensively used for a variety of purposes, and ensuring that the water quality is monitored and the degraded water bodies are enhanced is essential for protecting the water resources. EU Water Framework

	Directive (2000/60/EC) sets forth the framework for integrated management of surface waters and groundwater resources in the EU Member States, which are presented as River Basin Management Plans.
Definition	Ecological potential for heavily modified or artificial water bodies (maximum, good, moderate, poor, bad)
Strengths and weaknesses	+ A comparable EU-wide applied assessment - Requires arrangements on Member State-level
Measurement procedure and tool	<p>The following procedure is based off the requirements set by the Water Framework Directive (2000/60/EC):</p> <ol style="list-style-type: none"> 1. Characterise water bodies within a river basin area per Annex II: <ol style="list-style-type: none"> a. Rivers, lakes, transitional waters or coastal waters — or artificial surface water bodies or heavily modified surface water bodies 2. Establish type-specific reference conditions per Annex V 3. Identify significant anthropogenic pressures, and estimate point and diffuse source pollution in particular by substances listed under Annex VIII: <ol style="list-style-type: none"> a. Organohalogen compounds and substances which may form such compounds in the aquatic environment b. Organophosphorous compounds c. Organotin compounds d. Substances and preparations, or the breakdown products of such, which have been proved to possess carcinogenic or mutagenic properties or properties which may affect steroidogenic, thyroid, reproduction or other endocrine related functions in or via the aquatic environment e. Persistent hydrocarbons and persistent and bioaccumulable organic toxic substances f. Cyanides g. Metals and their compounds h. Arsenic and its compounds i. Biocides and plant protection products j. Materials in suspension k. Substances which contribute to eutrophication (in particular, nitrates and phosphates) l. Substances which have an unfavourable influence on the oxygen balance (and can

	<p>be measured using parameters such as BOD, COD, etc.)</p> <ol style="list-style-type: none"> 4. Establish monitoring of ecological potential for heavily modified or artificial water bodies: <ol style="list-style-type: none"> a. Design of surveillance, operational and/or investigative monitoring per Annex V b. Frequency of monitoring 5. Consider quality elements for classifying the ecological potential for heavily modified or artificial water bodies per Annex V: <ol style="list-style-type: none"> a. General conditions b. Biological quality elements c. Chemical and physicochemical elements d. Hydromorphological elements e. Specific synthetic pollutants f. Specific non-synthetic pollutants <p>The quality elements applicable to artificial and heavily modified surface water bodies shall be those applicable to whichever of the four natural surface water categories (rivers, lakes, transitional waters or coastal waters) most closely resembles the heavily modified or artificial water body concerned.</p> 6. Present monitoring results as maps in accordance with Annex V 7. Classify ecological potential for heavily modified or artificial water bodies per Annex V
Scale of measurement	River basin; Member State
Data source	
Required data	Reference conditions; Anthropogenic pressures; General, biological, physicochemical, hydromorphological quality of heavily modified or artificial water bodies
Data input type	Qualitative and quantitative
Data collection frequency	Different frequencies for biological, physicochemical, hydromorphological and other quality elements determined by Member States so as to provide sufficient data for a reliable assessment of the status of the relevant quality element.
Level of expertise required	Moderate to High
Synergies with other indicators	Indicators forming parts of the Member States' River Basin Management Plans: <i>Quantitative status of groundwater, Chemical status of groundwater, Ecological status of</i>

	<i>surface waters, Biological status of surface waters, Hydromorphological status of surface waters, Physicochemical status of surface waters and Ecological potential for heavily modified or artificial water bodies</i>
Connection with SDGs	SDG 6 Clean water and sanitation, SDG 11 Sustainable cities and communities, SDG 12 Responsible consumption and production, SDG 13 Climate action, SDG 14 Life below water
Opportunities for participatory data collection	No opportunities identified
Additional information	
References	European Parliament. (2000). <i>Directive 2000/60/EC of the European Parliament and of the Council of 23 October 2000 establishing a framework for Community action in the field of water policy.</i> http://data.europa.eu/eli/dir/2000/60/oj European Commission. (2012). <i>Report from the Commission to the European Parliament and the Council on the Implementation of the Water Framework Directive (2000/60/EC). River Basin Management Plans.</i>

4.55 Biological quality of surface waters

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Water Quality: Biological status of surface waters	Water Management
Description and justification	Water covers ca. 71 % of the Earth's surface but only 2.5 % of it is fresh, stored as groundwater and in glaciers. Water is vital for living organisms, and it enables a multitude of human activities such as agriculture, manufacturing and transportation of goods. Available water resources are being extensively used for a variety of purposes, and ensuring that the water quality is monitored and the degraded water bodies are enhanced is essential for protecting the water resources. EU Water Framework Directive (2000/60/EC) sets forth the framework for integrated management of surface waters and groundwater resources in the EU Member States, which are presented as River Basin Management Plans.