

Vandrammedirektivets vejledning 4 (European Commission: Guidance document n.o 4: Identification and Designation of Heavily Modified and Artificial Water Bodies” European Communities. 2003)  
<http://www.waterframeworkdirective.wdd.moa.gov.cy/docs/GuidanceDocuments/Guidancedoc4HMWB.pdf> p. 12:

3.1.1 What is a Heavily Modified Water?

The concept of HMWB was introduced into the WFD in recognition that many water bodies in Europe have been subject to major physical alterations so as to allow for a range of water uses. Article 4(3)(a) lists the following types of activities which were considered likely to result in a water body being designated as a HMWB:

- navigation, including port facilities, or recreation;
- activities for the purposes of which water is stored, such as drinking-water supply, power generation or irrigation;
- water regulation, flood protection, land drainage;
- other equally important sustainable human development activities.

These specified uses tend to require considerable hydromorphological changes to water bodies of such a scale that restoration to “good ecological status” (GES) may not be achievable even in the long-term without preventing the continuation of the specified use. The concept of HMWB was created to allow for the continuation of these specified uses which provide valuable social and economic benefits but at the same time allow mitigation measures to improve water quality.

samt p. 31 – 32:

Table 1: Overview of the main specified uses, physical alterations and impacts

Specified Uses	Naviga-tion	Flood protection	Hydro-power generation	Agriculture/ Forestry/ Fish farms	Water supply	Recreation	Urbani-sation <sup>16</sup>
Physical Alterations (pressures)							
Dams & weirs	X	X	X	X	X	X	
Channel maintenance/ dredging/ removal of material	X	X	X	X		X	
Shipping channels	X						
Channelisation/ straightening	X	X	X	X	X		X
Bank reinforcement/ fixation/ embankments	X	X	X		X		X
Land drainage				X			X
Land claim				X			X

*Identification and Designation of Heavily Modified and Artificial Water Bodies*

Specified Uses	Naviga- tion	Flood protection	Hydro- power generation	Agriculture/ Forestry/ Fish farms	Water supply	Recreation	Urbani- sation <sup>16</sup>
Creation of back waters through embankments	X					X	X
Impacts on hydromorphology and biology							
Disruption in river continuum & sediment transport	X	X	X	X	X	X	
Change in river profile	X	X	X	X			X
Detachment of ox-bow lakes/wetlands	X	X	X	X	X		X
Restriction/Loss of flood plains		X	X				X
Low/reduced flows			X	X	X		
Direct mechanical damage to fauna/flora	X		X			X	
Artificial discharge regime		X	X	X	X		
Change in groundwater level			X	X			X
Soil erosion/silting	X		X	X			X