

# The EU Water Framework Directive

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*The EU Water Framework Directive is intended to provide a set of guidelines for integrated management of water resources in the European Union and its individual member states. The Directive will function as a set of minimum requirements, i.e. each individual country may draw up more stringent requirements than those set out in the Framework Directive.*

The main objective of the Water Framework Directive (WFD) is to protect our water resources, which are divided into the following categories: groundwater, lakes, rivers, brackish water and coastal water. The Directive sets out a requirement that water should be of “good” to “very good quality”, as measured by ecological measures of quality. A water body that does not deviate much from its “natural condition” is said to enjoy a “very good ecological status”. The aim is that all water bodies should have “good ecological status” by the end of 2015. Measures may be taken to deal with any water bodies that do not achieve such status.

Water bodies are the basic geographical units of the WFD. They are to be thought of as functional ecological or management units. The Institute of Marine Research is participating in efforts related to coastal and brackish waters. The WFD defines coastal

water as that lying within one nautical mile of the baseline.

Norwegian coastal waters are divided into a number of different “ecological types”. Important criteria for allocation to one type or another have included the ecological region to which they belong, tidal differences, salinity, degree of exposure, degree of vertical mixing and stratification, the turnover rate of water masses and current conditions.

The coast of Norway is divided into four ecological regions: the Skagerrak, the North Sea, the Norwegian Sea and the Barents Sea (Figure 1), and within each of these regions individual water bodies are allocated to one of the following types of nature:

- ▶ Open exposed coast
- ▶ Moderately exposed coast
- ▶ Protected coast or fjord
- ▶ Freshwater-influenced fjord
- ▶ Highly freshwater-influenced fjord
- ▶ Oxygen-deficient fjord
- ▶ Fast-current sound.

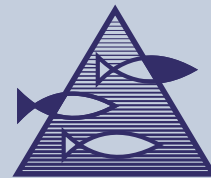
There is also the possibility of introducing the concept of “heavily modified water bodies” (HMBW), which are water bodies that have been so heavily affected



Photo: Norwegian Seafood Export Council



The Water Framework Directive aims to maintain good ecological conditions and a clean environment.



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by human activity that it would hardly be possible to return them to “good ecological status”, at any rate within a reasonable cost framework. Within the coastal water category, examples of HMBWs might be major harbour areas or fjords that have been affected by river regulation. In most cases, the return of an HMBW to its natural condition would be inconceivable, so for HMBWs, the Directive sets out a requirement of “good ecological potential” in place of “good ecological status”.

### 1570 WATER BODIES ON THE COAST OF NORWAY

Taking the proposed types of coastal water and the Fjord Catalogue as its points of departure, the Institute of Marine Research has suggested dividing the Norwegian coast from Jomfruland to the Russian border into around 1570 water bodies. These have been allocated to a number of different well-defined water types (Figure 1).

For this detailed classification important criteria have included the degree of human settlement affecting them, the extent of agriculture and industry, dietary advice, introduced species, the effects of aquaculture, seaweed trawling and other types of trawling in coastal waters, and using the State Pollution Control

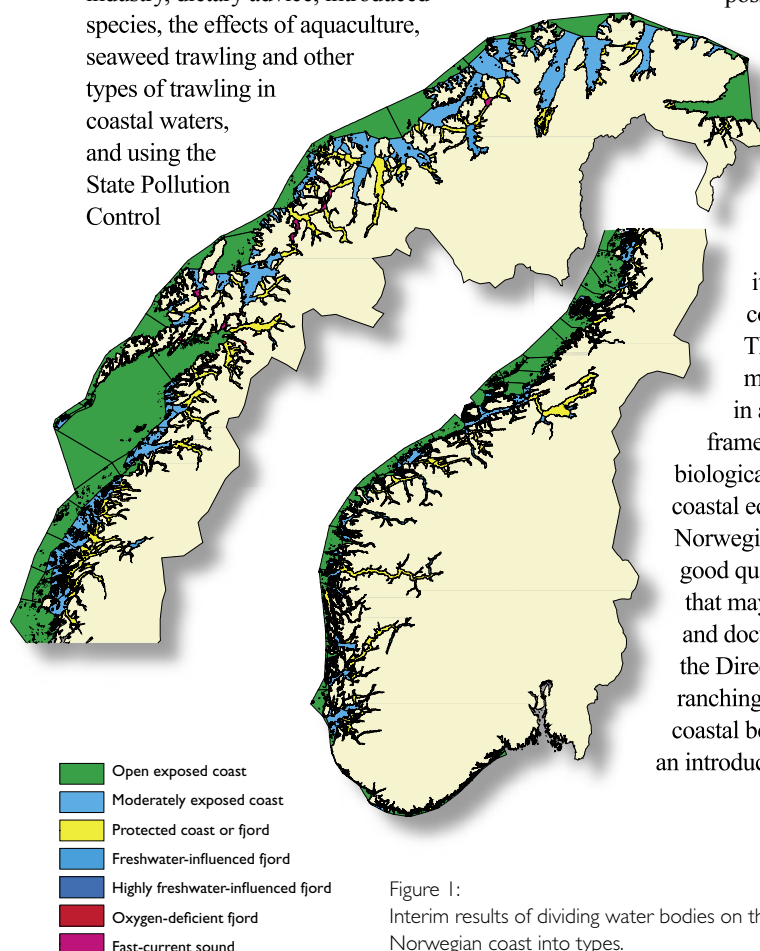


Figure 1:  
Interim results of dividing water bodies on the Norwegian coast into types.

Authority’s environmental classification system for those water bodies for which environmental data are available.

At the moment, the WFD contains only brief general descriptions of what constitutes “very good”, “good”, “moderate”, “poor” and “very poor” status for coastal water. Ecological Quality Objectives (EQOs) are insufficiently developed and it is likely that it will take some time to arrive at agreed operational EU-wide measures of quality. The Institute of Marine Research could contribute to this process with its expertise in marine ecology.

### MONITORING NEEDED

The WFD also requires different types of water bodies on the coast to be monitored, in order to enable us to regularly document their condition and any observable trends. In 2005, the process of selecting reference stations and designing monitoring programmes for these stations commenced. The Institute of Marine Research possess key expertise in work of this sort, as well as a number of ongoing monitoring activities that it would be natural to base the new monitoring programme on.

The WFD will affect value creation in the coastal zone, first and foremost in a positive way, in that it aims to conserve good ecological conditions and a clean environment. This is in line with our ambition that marine resources should be harvested in a sustainable way, i.e. within a framework that will ensure that the natural biological productivity and diversity of our coastal ecosystems are maintained, and that Norwegian seafood should be pure and of good quality. Certain value-adding activities that may initially require more clarification and documentation with regard to managing the Directive include aquaculture and sea ranching, seaweed trawling, shell scraping, coastal benthic trawling, and the king crab as an introduced species.

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