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Adaptive Management of EU Marine Ecosystems – About Time to Include Fishery**

“The fisheries sector can no longer be seen in isolation from its broader maritime environment and from other policies dealing with marine activities. Fisheries are heavily dependent on access to maritime space and to healthy marine ecosystems.”¹

1 Introduction

The world has experienced overfishing in several marine areas, causing longterm, possibly permanent, harm to particular fish species and marine ecosystems and, ultimately, self destruction of regional fishing industries. Overfishing in the waters outside Newfoundland, for example, caused

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** *Scandinavian Studies in Law: Environmental Law* (ed. Wahlgren P.) Stockholm Institute for Scandinavian Law (2014), p. 201–240.

¹ *Green Paper, Reform of the Common Fisheries Policy*, EU Commission 22.4 2009, COM (2009)163 final, p. 5 (hereafter Green Paper).

the collapse of cod-populations in the region.² Statistics show that EU waters are currently also subject to non-sustainable fishery.³ Decisions on catch limits and other measures have in fact been based on both short-term economic benefits and the immediate survival of the fishing industry without paying sufficient attention to the status of the fish stocks and other ecological conditions necessary for the continued viability of these resources.

This article presumes that efficient use of fish resources should be ecologically, economically and socially sustainable. This needs to be further explained. “Sustainable development” is, since the 1992 United Nations Conference on Environment and Development (UNCED), often regarded as an objective including “three pillars” representing ecological, economic and social interests. The three pillars are in principle seen as equal and the three competing interests are balanced in particular situations. However, this understanding of sustainable development is considered to be insufficient by legal scholars such as Staffan Westerlund and Gerd Winter. Both authors see the ecological interest as non-negotiable. According to Winter, the biosphere is the foundation on which the economic and social pillars stand: “Economy and society are the weaker partners, as the biosphere can exist without humans, but humans certainly cannot exist without the biosphere”.⁴ Westerlund argued that it is impossible to compromise with the laws of nature.⁵ He also emphasised the need for a new sustainable legal order that would safeguard the ecological foundation.⁶ He regarded coercive legal instruments as crucial for

² See D.P. Swain and R.K. Mohn, *Forage fish and the factors governing recovery of Atlantic cod (Gadus morhua) on the eastern Scotian Shelf*, in Canadian Journal of Fisheries and Aquatic Sciences, 2012, 69(6), p. 997–1001, April 2012, p. 997. See also J.A. Hutchings and W. Rangeley, *Correlates of recovery for Canadian Atlantic cod (Gadus morhua)*, in Canadian Journal of Zoology, April 2011, p. 388 ff. and A. Kempf, *Ecosystem approach to fisheries in the European context – history and future challenges*, in Journal of Applied Ichthyology, 26, 2010, p. 102.

³ *Infra*, part 3.1.

⁴ G. Winter, *A fundamental and Two Pillars, The Concept of Sustainable Development 20 Years after the Brundtland Report*. In H.C. Bugge & C. Voigts (eds.), in Sustainable Development in International and National Law, Europe Law Publishing 2008, p. 25 ff, 27.

⁵ S. Westerlund, *Theory for Sustainable Development, Towards or Against*, in Sustainable Development in International and National Law, see footnote 4, p. 60 f.

⁶ S. Westerlund, *En hållbar rättsordning, Rättsvetenskapliga paradigmet och tankevändor*, Iustus 1997.

providing for long-term sustainable use of natural resources. We share the standpoints taken by Westerlund and Winter.

This article takes its point of departure from the *interconnection between marine ecology and fishery*, more precisely from the two following presumptions. First, fish species are dependent on water quality; when water is polluted or physically altered, fish habitats and fish species are affected. Second, fishing activities affect not only the specific fish species being caught. This targeted species is connected to other species (of fish, birds, algae, etc.) in the ecosystem, for example as predator or prey in the food web. A significant decline of the population of a certain fish species, e.g. due to overfishing, may threaten the resilience of the marine or marine/terrestrial ecosystem of which the targeted fish is a part. By-catch and the use of high-impact fishing methods such as bottom gears may also damage the ecosystem. Fishery may also affect the ecosystem indirectly if the chemical status of the water is altered, such as with regards to its balance of nutrients.⁷ In short, fish species are part of marine ecosystems and fishery is one among many activities that affect and is affected by this system.⁸ The fact that certain fish species are migratory heightens the need for broader environmental considerations.

Thus, the *ecosystem approach* is crucial for sustainable fishery and therefore also for the analyses in this paper.⁹ According to the FAO guidelines,¹⁰ an ecosystem approach to fisheries “strives to balance diverse so-

⁷ See e.g. Eriksson et al., *Declines in predatory fish promote bloom-forming macroalgae*, in *Ecological Applications* 19(8) 2009, p. 1975–1988.

⁸ See e.g. *OSPAR Commission, Quality Status Report 2010*, p. 71 “Fishery pressure continues to have a considerable impact on marine ecosystems.”

⁹ The “Ecosystem Approach” to fisheries has developed over time by the adoption of conventions, agreements and recommendations, primarily in international law. Important documents are the 1992 UN Convention of Biological Diversity (hereafter CBD), the 1982 UN convention on the Law of the Sea (hereafter UNCLOS), the FAO Code of Conduct for Responsible Fisheries from 1995, formalized in 2001, and the 1971 Ramsar Convention (see also part 3.4 which describes how the CFP have been influenced by the Ecosystem Approach developed in international law). General guidelines for the “Ecosystem Approach”, highly relevant for fisheries, have been laid down in several CoP-decisions under CBD (see the Malawi-principles, such as CoP-decisions V/6 (2000), V/7 (2002) and VII/11 (2004)). The approach is broad and includes humans as a part of the ecosystem.

¹⁰ Fisheries management – 2. The Ecosystem Approach to Fisheries. FAO Technical Guidelines for Responsible Fisheries. No. 4. Suppl. 2. Rome, 2003 (hereinafter FAO (2003)).

cietal objectives, by taking account of the knowledge and uncertainties about biotic, abiotic and human components of ecosystems and their interactions and applying an integrated approach to fisheries *within* ecologically meaningful boundaries” (authors’ italics).¹¹

To conclude, we find that, in line with the definition provided by the FAO guidelines and the theoretical standpoints by Westerlund and Winter, and with regard to the alarming scientific information on degradation of fish populations, to the crucial role of fish species in the food web, and to the precautionary principle, certain marine ecological limits should be adopted and respected as minimum requirements. These limits should be seen as necessary also for the long-term economic and social interests connected to the fishery industry.

The interconnection between fishery and management of aquatic ecosystems in general has legal implications. The EU Common Fishery Policy (CFP) is based upon the Common Fishery Policy Regulation (CFP regulation).¹² It includes a number of instruments setting the specific preconditions for fishing activities. The Marine Strategy Framework Directive (MSD) is based upon a more holistic approach.¹³ So too is the Water Framework Directive (WFD),¹⁴ which applies to both inland waters and marine coastal waters. These two directives apply to all human activities affecting the marine ecosystem and to different environmental impacts on the marine ecology. The holistic approach is carried out

¹¹ FAO (2003) p. 14. This view is also expressed in CoP 5 decision V/6 on the Ecosystem Approach, where one of the guiding principle states that “ecosystems must be managed *within* the limits of their functioning (authors’ italics). The motive behind the principle is the environmental conditions limit natural productivity, ecosystem structure, functioning and diversity For a more in depth description of the FAO and other ecosystem guidelines for fisheries see S.M. Garcia and K.L. Cochrane, *Ecosystem approach to fisheries: a review of implementation guidelines*, in ICES Journal of Marine Science 62, 2005, in particular p. 312–313 and A. Kempf, *Ecosystem approach to fisheries in the European context – history and future challenges*, J. Appl Ichthyol, 26, 2010, p. 103–104.

¹² Council Regulation (EC) No 2371/2002 of 20 December 2002 on the conservation and sustainable exploitation of fisheries resources under the Common Fisheries Policy (hereafter CFP regulation).

¹³ Directive 2008/56/EC of the European Parliament and of the Council of 17 June 2008 establishing a framework for community action in the field of marine environmental policy.

¹⁴ 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.

through adaptive planning, using “marine strategies” for marine regions (MSD) and “management plans” for water basins (WFD).¹⁵

The purpose of this article is to examine how the MSD and the WFD are legally connected to the CFP regulation.¹⁶ More specifically, the legal research questions are:

1. How is current knowledge on fish fauna and fishing activities included in the MSD and WFD adaptive planning?
2. To what extent are the MSD and WFD hierarchically superior to the CFP? More precisely, how does adaptive planning according to the MSD and WFD impact decisions taken under the CFP regulation concerning restrictions on fisheries.

The legal material and issues related to fishery are extensive and complex and limitations have been necessary. This article addresses fishery in marine areas, not inland waters directly.¹⁷ Furthermore, it analyses the MSD and WFD in relation to the CFP only in situations where commercial fishery is not restricted by specific conservation requirements. The article excludes therefore analyses of, inter alia, the Habitats Directive (e.g. marine protected areas),¹⁸ the Regulation on protection of vulnerable marine ecosystems in the high seas from the adverse impacts of bottom fishing gears¹⁹ and the Regulation establishing measures for the recovery of the stock of European eel.²⁰

The article is structured as follows. Section 2 starts with a description of the general structure of the WFD and MSD, followed by an analysis of how fish species and fishing activities are integrated in the adaptive planning processes set out in the two directives, i.e. aiming at answering the first research question. It also includes some examples from the Swedish

¹⁵ See further *infra*, part 2.1.

¹⁶ Similar cross legal sector approach, see A. Trouwborst and H.M. Dotinga, *Comparing European Instruments for Marine Nature Conservation: The OSPAR Convention, the Bern Convention, the Birds and Habitats Directives and the Added Value of the Marine Strategy Framework Directive*. In *European and Environmental Law Review*, August 2011, p. 129 ff.

¹⁷ Some fish habitats include both marine and inland waters, *infra*, parts 2.2.1 and 2.2.4.

¹⁸ Council Directive 92/43/EEC of 21 May 1992 on the conservation of natural habitats and of wild fauna and flora (hereafter Habitats directive).

¹⁹ Council Regulation (EC) No 734/2008 of 15 July 2008 on the protection of vulnerable marine ecosystems in the high seas from the adverse impacts of bottom fishing gears.

²⁰ Council Regulation (EC) No 1100/2007 of 18 September 2007 establishing measures for the recovery of the stock of European eel.

implementation of the directives. Section 3 provides first a general CFP context; containing a short description of the EU fishery situation and the CFP history, and an examination of the relevant parts of both the 2002 CFP regulation (including the implementation problems in practice) and the proposed 2013 CFP regulation,²¹ with special attention to how the marine ecosystem approach is implemented. This CFP context is necessary in order to discuss the second research question in the last part of section 3; how decisions according to CFP regulations are impacted by adaptive planning in MSD and WFD.²² Concluding remarks are presented in section 4.

2 Water Framework Directive and Marine Strategy Directive – Adaptive Planning of Entire Aquatic Ecosystems

2.1 The Legal Frameworks

2.1.1 *Water Framework Directive*

The WFD was adopted in 2000 and has gradually replaced a number of water related directives, some aiming at water quality protection (water quality standards for fish and shellfish waters, etc.), others at control of emissions from different sources (e.g. discharges of waste water from municipalities and leakage of nitrate from agriculture). The WFD focuses on entire river basins and applies to ground and surface water bodies within them. It includes not only lakes, rivers and transitional waters,²³ but also

²¹ Basic Regulation of the CFP – Final Comprise text (as endorsed by the Coreper meeting of 14 June and submitted for consideration to the PECH meeting of 18 June), hereafter CFP proposal 2013. The first proposal was adopted by the Commission in 2011: proposal for a Regulation of the European Parliament and of the Council on the Common Fisheries Policy, 2011/0195 (COD), hereinafter CFP proposal 2011. *See further*, *infra* part 3.3.

²² The analysis is to greatest extent limited to the legal text of the CFP basic regulations and the two water directives. To our knowledge, there is at the moment no clarifying case-law relevant for the research questions in this article.

²³ Article 2.6 (definition): “Transitional waters’ are bodies of surface water in the vicinity of river mouths which are partly saline in character as a result of their proximity to coastal waters but which are substantially influenced by freshwater flows.”

sea waters nearest to the coast line.²⁴ It is therefore relevant for parts of commercial marine fishery. Specific Regional Water Authorities are responsible for the planning (management) of river basins within river basin districts,²⁵ geographically identified by each member state.

The WFD introduced a new concept in EU environmental law: *adaptive planning*. This instrument is based upon the general understanding that we manage natural resources under a state of uncertainty.²⁶ We should therefore be able to change policy and also existing legal positions (determined in e.g. licenses and physical plans) if the environment is altered in a way that we did not foresee, if new technology is developed, or simply because our knowledge is improved. Figure 1 describes rudimentarily the adaptive planning of water basins according to the WFD. The Regional Water Authorities adopt six years management plans within their river basin districts. After that follows implementation of the programmes of measures, then monitoring of the implementation and of the water status. Before the next period starts, the Regional Water Authorities shall evaluate the monitored data and consider what changes are needed, such as those due to failure in the implementation (e.g., discharges of nutrients have not decreased as planned in the programme of measures) or new knowledge (e.g., a certain fish population has unexpectedly declined). The recommended changes may lead to altered characterisation of water bodies, new objectives, changes in the levels of the water quality standards and/or other measures for the next programme. Although the basic rules on adaptive planning are found in the Directive, member states' national planning systems differ in part.²⁷

²⁴ Article 2.7 (definition): "Coastal water" means surface water on the landward side of a line, every point of which is at a distance of one nautical mile on the seaward side from the nearest point of the baseline from which the breadth of territorial waters is measured, extending where appropriate up to the outer limit of transitional waters."

²⁵ Article 2.15 (definition) and article 3.1.

²⁶ See e.g. C.S. Holling (ed.). *Adaptive environmental assessment and management*. J Wiley, London 1978, L.H. Gunderson, *Resilience, flexibility and adaptive management: antidotes for spurious certitude?* in Cons Ecol 3:7 and C.J. Walters, *Adaptive management of renewable resources*. McGraw Hill, New York 1986.

²⁷ Y. Uitenboogaart et al. (eds) *Dealing with Complexity and Policy Discretion – A Comparison of the Implementation Process of the European Water Framework Directive in Five Member States*, Den Haag, Sdu Uitgevers 2009. See also M. Ekelund Entson and L. Gipperth, *Mot samma mål, Implementeringen av EU:s ramdirektiv för vatten i Skandinavien*, Juridiska institutionens skriftserie 007, Handelshögskolan vid Göteborgs universitet, 2010.

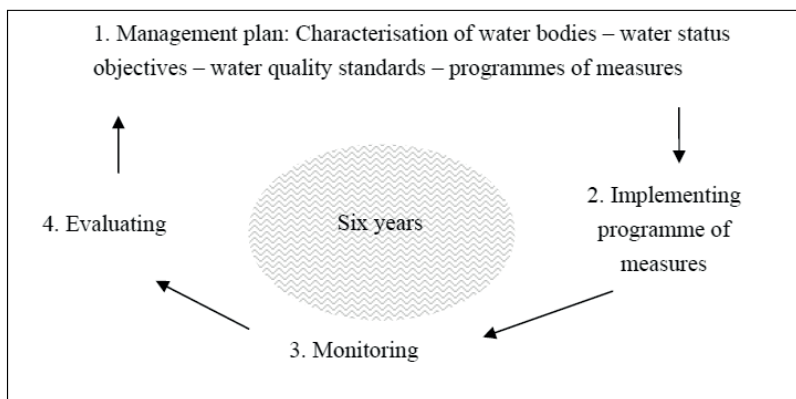


Figure 1: Adaptive planning according to WFD.

In sum, the WFD adopts a holistic approach to water management; first by requiring adaptive planning of entire river basins and secondly by addressing all kinds of activities imposing pressure on the aquatic ecosystem, through pollution or otherwise.

2.1.2 Marine Strategy Directive

One of the main tasks set out in the Sixth Community Environment Action Programme 2002 was to work out a thematic strategy for the protection and conservation of the marine environment.²⁸ The MSD, adopted 2008, became the legal backbone of that strategy.²⁹ The directive recognises that the conservation of marine ecosystems should address “all human activities that have an impact on the marine environment”. Fishery is not excluded.³⁰

The MSD applies to four big marine regions: the Baltic Sea, the North-East Atlantic, the Mediterranean and the Black Sea. These may

²⁸ Decision No 1600/2002/EC of the European Parliament and of the Council of 22 July 2002 laying down the Sixth Community Environment Action Programme, article 6 g (hereafter Sixth Community Environment Action Program).

²⁹ Preamble, item 4.

³⁰ Preamble, item 5. See also article 2.2 (Scope). It explicitly excludes (from full application of the directive) only “activities the sole purpose of which is defence or national security”.

be divided into subregions.³¹ The MSD overlaps the WFD in coastal waters,³² but covers commercial fishery to a greater extent as it applies to all marine waters. Regarding coastal waters, the MSD only applies to matters that are not already addressed by the WFD or other community legislation.³³ Since the WFD does not cover e.g. fish species in coastal waters, the MSD could be an important complementary legislation in these waters types.³⁴ However, since the provision also refers to “other community legislation”, the directive would not apply to particular fish or fishery aspects in coastal waters that are already addressed by the CFP.³⁵

The objective of the MSD is to achieve or maintain, at minimum “good environmental status” by the year 2020.³⁶ “Good environmental status” is defined as;

“the environmental status of marine waters where these provide *ecologically diverse* and dynamic oceans and seas which are clean, healthy and *productive within their intrinsic conditions*, and the use of the marine environment is at a level that is sustainable, thus safeguarding the potential for uses and activities by current and future generations” (authors’ italics).³⁷

In line with the definition of an ecosystem approach of fisheries, and our theoretical standpoint, the productivity of the ocean – which obviously includes its ability to produce fish populations for commercial use – is tied to ecological diversity. It is also indicated in the MSD preamble that an “ecosystem-based approach” shall be applied to the management of

³¹ Article 4.

³² This means that the directive overlaps from the baseline out to one nautical mile.

³³ See article 2.1 and 3.1.

³⁴ The MSD moreover covers a broader range of biodiversity components than the WFD and can therefore be seen as a complimentary regulation to WFD in coastal waters also when it comes to other components of the aquatic ecosystems than fish. The MSD e.g. covers sea birds, marine mammals and zooplankton, which are not covered by the WFD.

³⁵ We interpret the formulation “particular aspects... already addressed through other community legislation” to exclude application of the MSD in coastal waters *only* if the matter has actually been regulated, not merely if there is a regulation (CFP) that could regulate the matter. We can thus already here identify a lack of a coherent, logical and systematic regulatory approach, which can be contradictory in achieving an integrated and ecosystem-based management of aquatic ecosystems.

³⁶ Article 1.1-2.

³⁷ Article 3.5, see also preamble, item 3. According to preamble, item 34, the determination of good environmental status may have to be adapted over time.

different human activities.³⁸ It should therefore be assumed that to ensure sustainable production of fish stocks for commercial use,³⁹ for present and coming generations, biodiversity of the entire marine ecosystem, in which fish are an essential part, must be maintained.

Good environmental status shall be achieved and maintained through *marine strategies*, based upon the ecosystem-based approach.⁴⁰ The strategies shall be adopted and implemented by the member states, for the regions concerned, and updated every sixth year.⁴¹ The adaptive planning system in the MSD is based on that in the WFD.

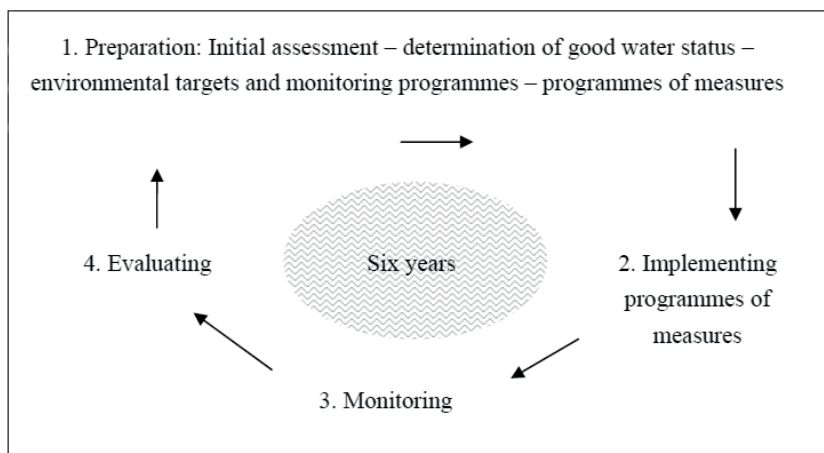


Figure 2: Adaptive planning according to the MSD

2.2 How are Fish Fauna and Fishing Activities Included in the Adaptive Planning Processes?

We now turn to the first research question. As explained in the introduction, fish species are both predators and prey in the food web; they play an important role in the ecosystem. It is therefore of vital interest to address two questions: first, how current knowledge on fish fauna and impacts

³⁸ Preamble, item 8.

³⁹ “Stock” is defined in CFP regulation, article 3(g) as “a living aquatic resource that occurs in a given management area”.

⁴⁰ Article 1.3.

⁴¹ Articles 5 and 17. Member states sharing a region shall cooperate, article 5.2.

of fishing activities are integrated in adaptive planning, and second, how programmes of measures address fishing activities. The planning stages 1 and 2 in the two figures in part 2.1 will now be scrutinized in more detail.

2.2.1 Characterisation of Waters and Determination of Water Status Objectives and Water Quality Standards According to the Water Framework Directive

Characterisation of waters (figure 1, item 1)

After collection of scientific data, single water bodies are characterised according to the current water status, both chemical and ecological (which is an enormous task for a member state like Sweden, with many rivers and lakes and a long sea shoreline).⁴² The *ecological water* status may be characterised as “high”, “good”, “moderate”, “poor” or “bad”.⁴³ The classification of ecological status is far more complicated than for chemical status, including different *quality elements*, of which the biological forms the basis for classification.⁴⁴ Each quality element is determined through one or several *parameters*.

One of the biological quality elements is of particular interest here: “Composition, abundance and age structure of fish fauna”. This quality element applies to *inland* waters, i.e., rivers, lakes and transitional waters but not to coastal sea waters, despite the fact that those waters are within the geographical scope of the WFD.

In Sweden, the requirements in the WFD concerning classification of water status have been implemented in regulations under the Environmental Code (1998:808).⁴⁵ The Swedish legislation uses, as does the directive, fish as a biological quality element in the classification of eco-

⁴² Annex V, 1.4.3. See also the WFD, annex IX and Directive 2008/105/EC of the European Parliament and of the Council of 16 December 2008 on environmental quality standards in the field of water policy.

⁴³ The *chemical status* for surface water is “good” if it meets certain water quality standards defined in EU-legislation, otherwise “not good”.

⁴⁴ The other two groups of elements are the hydro-morphological and the physico-chemical. See further WFD, annex V.

⁴⁵ State agency regulation *Havs- och vattenmyndighetens föreskrifter (2013:19) om klassificering och miljö kvalitetsnormer avseende ytvatten*, hereafter HVMFS 2013:19 (replaced NFS 2008:1 in July 2013), is based on chapter 4, section 8 *förordning (2004:660) om förvaltning av kvaliteten på vattenmiljön* (governmental regulations, subordinated chapter 5 in the Environmental Code).

logical status of inland waters only.⁴⁶ The Swedish legislation is however much more specific than the WFD.⁴⁷ For fish in rivers, the classification includes criteria relating to e.g. abundance of native salmon and brown trout fish stocks and proportion of reproductive salmon species.⁴⁸ These criteria shall be applied when assessing water status as well as determining environmental quality standards.⁴⁹ However, for coastal waters, the Swedish legislation lacks fish-related elements.

The lack of fish as a biological quality element in coastal waters, in the WFD as well as in the Swedish legislation, gives rise to several concerns.⁵⁰ First, from an ecological point of view, fish are often a natural part of healthy coastal waters and should thus be a criterion for good ecological status. Second, the lack of these elements in coastal waters could potentially affect the possibility of achieving a good ecological status in other water body types. Some fish, such as salmon, eel and sea run brown trout, migrate for long distances over both inland and coastal waters.⁵¹

Water status objectives (figure 1, item 1)

After the characterisation of a water body's current status, water status objectives and target dates for single water bodies are set. The point of departure is the objectives set out in the WFD. One is to "prevent deterioration of the status of all bodies of surface water".⁵² Another is to obtain at least "good" surface water status by 2015, both chemical and ecological.⁵³ However, there are important exemptions that have often been used by the member states, for example the possibility to postpone

⁴⁶ See HVMFS 2013:19. In coastal and transitional waters criteria for assessment of good ecological status relate to benthic fauna, macroalgae and phytoplankton.

⁴⁷ In lakes the classification shall take into account elements concerning e.g. the number of native fish species, diversity of species in the catch and the relative biomass of native species per net. See HVMFS 2013:19, annex 1, number 6.

⁴⁸ HVMFS 2013:19, annex 1, number 7 (classification according to criteria laid down in 7.3).

⁴⁹ HVMFS 2013:19 chapter 1, section 1.

⁵⁰ See also *infra*, part 2.2.4.

⁵¹ As described *infra*, part 2.2.2, such fish species are also considered in MSD when assessing and determining good water status. However, as described above and discussed further below the MSD will not be applicable in coastal waters if the matter is already addressed by other community legislation, such as the CFP.

⁵² Article 4.1(a)(i).

⁵³ Article 4.1(a)(ii).

the deadline for good water status.⁵⁴ Annex V of the WFD also applies to the determination of the water status objectives. The indicators specifying good ecological water status will impact the decision regarding an objective's target date. Again, fish species are used as quality element for the ecological status, but only for inland waters, not coastal waters.

Water quality standards (figure 1, item 1)

Objectives for water status are specified in water quality standards. The WFD includes such standards only for pollutants. Sweden has nevertheless adopted a detailed system of quality standards including quality elements and parameters for good ecological status, such as those fish-related standards mentioned above.⁵⁵ Fish-related standards have been determined for various inland water bodies but not for coastal waters.⁵⁶

2.2.2 Preparation of Marine Strategies According to the Marine Strategy Directive

Concepts

To facilitate the understanding of this part, table 1 gives an overview of most relevant concepts used in the MSD adaptive planning. The concepts, though often complex, are not defined in the directive. Examples, set out in the different annexes, are given for each concept (to the right in the table below).

⁵⁴ Article 4.4. Important is also the possibility to characterise waters as artificial or heavily modified (e.g. rivers exploited for hydro-power extraction), article 4.5.

⁵⁵ HVMFS 2013:19, chapter 3.

⁵⁶ The standards have been recognized in Swedish case law. See e.g. cases 2012-09-13, M 10108-11 and 2013-03-26, M 6369-12. See also the government bill, prop 2009/10:184, p. 41–42 and 2003/04:2, p. 32. The standards for good ecological status are indicative (not binding as such) in connection with licensing of e.g. polluting activities or hydro-power developments, in contrast to so called “limit value norms” (“gränsvärdesnormer”), which apply e.g. to certain hazardous pollutants. These matters are further analysed in G. Michanek and C. Zetterberg, *Den svenska miljörätten*, third edition, Iustus, Uppsala 2012, part 10.3.3 (hereafter Michanek and Zetterberg).

Concepts	Procedure	Provisions	Annex	Example
<i>Characteristics</i>	Assessment of water status/ Determination of good environmental status	Article 8/9	Annex III, table 1	“Information on the structure of fish populations...”
	Establishment of environmental targets	Article 10	Annex IV	“Consistence of the set of targets; absence of conflicts between them”
<i>Pressures and impacts</i>	Assessment of pressures and impacts/ Determination of good environmental status	Article 8/9	Annex III, table 2	“Selective extraction of species ...”
<i>Descriptors</i>	Determination of good environmental status	Article 9	Annex I	“Populations of all commercially exploited fish and shellfish ...”

Table: Important non-defined concepts used in the planning process in MSD.

The term *characteristics* is used in different contexts. Characteristics in relation to the assessment and determination of good environmental status refer to environmental elements,⁵⁷ or features, to be regarded by the member states in these stages of the planning process. It concerns all kinds of environmental features of marine ecosystems (physical and chemical features, habitat types, biological features or any other feature of a marine ecosystem). However, in Annex IV, in the process of setting environmental targets,⁵⁸ the term characteristics is also used to describe administrative features. It should also be noted that except for these char-

⁵⁷ The non-defined concept “element” is used in several different provisions in the directive and can refer to e.g. characteristics, pressures or impacts.

⁵⁸ “Environmental target” is defined in article 3.7.

acteristics listed in the directive, member states shall determine their own set of national characteristics for good environmental status.⁵⁹ This shall be done on the basis of so called *descriptors* listed in Annex I.⁶⁰ The qualitative *descriptors* have in turn been specified in *criteria*⁶¹ and *indicators* by the Commission in a decision from 2010,⁶² described more thoroughly below (see part *Characteristics for good water status*) and illustrated in an annex to this article.

Initial assessments (figure 2, item 1)

In the preparation of the MSD marine strategies, member states shall initially assess the current environmental status of their marine waters and the environmental impact of human activities thereon,⁶³ “taking account of existing data where available” and comprising, inter alia, elements set out in an “indicative list”. *Fish fauna* is among these elements, more precisely the;

“structure of fish populations, including the abundance, distribution and age/size structure of the populations.”⁶⁴

However, as the list is only “indicative” and the data must be “available” the directive does not legally ensure that member states actually include the fish fauna elements in the assessment.

The legal situation is similar as regards the consideration of impacts from *fishing activities* in the initial assessment.⁶⁵ The directive requires an analysis of the “predominant pressures and impacts, including human

⁵⁹ Article 9.1, first paragraph. See definition of “environmental status” in article 3.4 and the definition of “good environmental status” in article 3.5.

⁶⁰ Article 9.1, second paragraph.

⁶¹ “Criteria” is defined in article 3.6.

⁶² Commission Decision of 1 September 2010 on criteria and methodological standards on good environmental status of marine waters (2010/477/EU).

⁶³ Article 8. The assessment includes an economic and social analysis of the use of waters and the cost of degradation of the marine environment.

⁶⁴ Article 8.1(a) and Annex III, Table 1. The criterion builds on the assumption that age and size are good indicators of healthy fish stocks and sustainable fisheries. This has however been criticized, e.g. by T. Brunel and G.J. Piet, *Is age structure a relevant criterion for the health of fish stocks?* in ICES Journal of Marine Science, 70, January 2013, p. 281. The authors show that age and size are dependent on selection pattern and that therefore selection pattern, which can easily be formulated in management objectives, should be used as criteria for good waters status instead.

⁶⁵ Article 8.1(b) and Annex III, Table 2.

activity”, on the environmental water status. This analysis shall cover the qualitative and quantitative mix of the various pressures, as well as discernible trends and the main cumulative and synergetic effects. It shall also take into account “relevant assessments which have been made pursuant to existing Community legislation” (such as the CFP regulation). Different impacts are listed in Annex III and most important for this study is:

“Biological disturbance”, inter alia from “selective extraction of species, including incidental non-target catches (e.g. by commercial ... fishing).”

Commercial fishery is obviously a form of “selective extraction” of species which can lead to biological disturbance. Consequently, the scientific assessments required according to the CFP regulation are also relevant to consider in the initial assessment according to the MSD, not least in cases of overfishing.⁶⁶ However, as the list of elements in Annex III is just “indicative” and not legally binding, member states are not explicitly obliged to consider impacts from fishing activities.

Characteristics for good water status (figure 2, item 1)

By reference to the initial assessment, the member states “shall” determine a set of characteristics for “good water status” on the basis of a list of eleven “qualitative descriptors”.⁶⁷ Each descriptor shall be included in the determination. Several of them are highly relevant to fish species, especially the following (legal text in italics);⁶⁸

- “*Biological diversity is maintained. The ... distribution and abundance of species are in line with prevailing physiographic, geographic and climatic conditions.*”⁶⁹ Overfishing of a fish population can affect biological diversity, not least the distribution and abundance of fish stocks.
- “*Populations of all commercially exploited fish and shellfish are within safe biological limits, exhibiting a population age and size distribution that is indicative of a healthy stock.*”⁷⁰
- “*All elements of the marine food webs, to the extent that they are known, occur at normal abundance and diversity and levels capable of ensuring*

⁶⁶ Infra, part 3.2.2.

⁶⁷ Article 9 (Annex I).

⁶⁸ Annex I, (1), (3), (4) and (6).

⁶⁹ Descriptor 1.

⁷⁰ Descriptor 3.

*the long-term abundance of the species and the retention of their full reproductive capacity.*⁷¹ As explained in the beginning of this article, fisheries can have far reaching consequences on ecosystem health, especially by affecting the balance of different trophic levels in the food web. In extreme cases, such imbalances could even lead to negative effects on the water quality *per se* (e.g. eutrophication).⁷²

- “*Sea-floor integrity is at a level that ensures that the structure and the functions of the ecosystem are safeguarded and benthic ecosystems, in particular, are not adversely affected.*”⁷³ The sea floor is the habitat of several fish species. Certain fishing activities, in particular bottom trawling, have significant adverse effect on the seabed and thus those species living there.

In addition to the eleven equally important mandatory descriptors,⁷⁴ member states shall consider a list of guiding characteristics when determining criteria for good environmental status.⁷⁵ Some of these elements include habitats of different kinds and “information on the structure of fish populations, including the abundance, distribution and age/size structure of the populations”. Member states shall also consider the impacts mentioned above, e.g. biological disturbances as a result of fishery.⁷⁶

In order to coordinate marine strategies within each regional sea, to ensure consistency and to allow progress to be compared between regions, the Commission has, in a 2010 decision, developed a certain methodology.⁷⁷ We have illustrated this in an annex to this article, with a focus on fish and fishery.

The 2010 decision introduced mutual *criteria* for good environmental status, which are binding on the member states. The criteria specify the

⁷¹ Descriptor 4.

⁷² *Supra*, section 1.

⁷³ Descriptor 6.

⁷⁴ According to Borja et al., Marine management – Towards an integrated implementation of the European Marine Strategy Framework and the Water Framework Directive, in Marine Pollution Bulletin 60, 2010, p. 2178, there is still little knowledge and no defined method on how the descriptors should be combined to assess good environmental status. The researchers suggest that descriptor 1 (biological diversity) and 4 (ecological functioning), are given higher priority in a weighting between descriptors.

⁷⁵ Article 9.1, second paragraph and Annex III, Table 1.

⁷⁶ Article 9.1, third paragraph and Annex III, Table 2.

⁷⁷ *Commission Decision of 1 September 2010 on criteria and methodological standards on good environmental status of marine waters* (2010/477/EU).

content of the quality descriptors, and are highly relevant for fish populations.⁷⁸ Criteria relating to the descriptor on populations of exploited fish and shellfish are levels or pressure of fisheries, reproductive capacity of the stock, and population size and distribution.⁷⁹ However, criteria relating to the biodiversity descriptor are also relevant for fisheries, since they concern species distribution, size and condition as well as ecosystem structures, and criteria relating to marine food webs and sea-floor integrity.

The 2010 decision also includes *indicators*, with the function to facilitate monitoring of a good environmental status. One example is the indicator “longdistance anadromous and catadromous migrating species” as practical guidance for assessment of the achievement of criteria for the “abundance/distribution of key trophic groups/species” (criteria 4.3) as a part of the descriptor 4, which concerns the balance in the food webs. Fish species such as eel, salmon and sea run brown trout are thus relevant to use as indicators for assessment of good environmental waters status according to the MSD.⁸⁰

An analysis of the wording in the 2010 decision shows that monitoring indicators, unlike criteria, are of *guiding* character, rather than strictly binding. First, article 1 states that “criteria” are to “be used by the Member States to assess the extent to which good environmental status is being achieved”. The same is not expressed as regards the indicators. Annex I, part A, section 8, nevertheless states that “Member States *need to consider* each of the criteria *and related indicators* listed in this Annex in order to identify those which are to be used to determine good environmental status (authors’ italics).” However, member states do not need to justify why proposed indicators are not used, as is required for proposed criteria.⁸¹

In sum, member states shall determine *national characteristics* for good environmental status, a rather complex process. Member states are legally bound by quality *descriptors* (MSD), which are complemented by similarly binding coordinating *criteria* for the descriptors (2010 decision). There are certain additional *MSD characteristics and impacts* for determination of status. These are of merely guiding nature. Additionally, there

⁷⁸ See especially Annex, part B, descriptor 1, 3 and 4.

⁷⁹ Criteria 3.3.

⁸⁰ See *supra*, part 2.2.1, about the Swedish implementation of biological quality elements for rivers relating to salmon and brown trout fish stocks.

⁸¹ This notification requirement is regulated in Article 9.2.

are *indicators* for monitoring good environmental status (2010 decision). There is thus some discretion for member states to determine the specifics of the characterisation and determination of water status.

MSD targets (figure 2, item 1)

Environmental targets are formulated “on the basis of the initial assessment” and defined as;

“a qualitative or quantitative statement on the desired condition of the different components of, and pressures and impacts on, marine waters in respect of each marine region or subregion.”⁸²

Article 10 formulates an obligation for member states to, on the basis of the initial assessment, establish “a comprehensive set of environmental targets and associated indicators for their marine waters”, related to both environmental conditions and pressures and impacts. The targets may include, for example, “structure of fish populations, including the abundance, distribution and age/size structure of the populations” and “biological disturbance” resulting from selective extraction of fish species. However, with regard to the specific content of the targets, member states have considerable discretion. First, the general expression “on the basis of the initial assessment” can hardly be understood as requiring full coherence between the targets and the initial assessment. Second, the function of the targets is to “*guide progress towards* achieving good environmental status in the marine environment” (authors’ italics), which is not a precise obligation.⁸³ Third, member states shall establish the targets, “*taking into account* the *indicative* lists of pressures and impacts set out in Table 2 of Annex III” (authors’ italics), e.g. biological disturbance; “and of characteristics set out in Annex IV”.⁸⁴

The definition of “environmental targets” is rather broad.⁸⁵ The member states may formulate targets in the form of figures, but targets may also be narrative and thus less precise. The formulation of environmental

⁸² Article 1.7.

⁸³ Article 10.

⁸⁴ Annex IV includes e.g. “specification of environmental status to be achieved or maintained and formulation of that status in terms of measurable properties of the elements characterising the marine waters of a Member State within a marine region or subregion”.

⁸⁵ See also Annex IV, including an “indicative” list of characteristics “to be taken into account” for setting environmental targets.

targets to achieve a good environmental status of marine waters is compulsory; however, the content of such targets is to a great extent left to member states to determine.⁸⁶ It is therefore up to the Member States to decide if targets related to fish will be established or not.⁸⁷

In Sweden, qualitative descriptions for good environmental status have been established.⁸⁸ Environmental targets (environmental quality standards with Swedish terminology, hereafter: “targets”) with national indicators have been established as well.⁸⁹ A target for *commercially exploited fish and shell fish* states that all naturally existing fish and shell fish populations affected by fisheries have an age and size structure, as well as a population size, which guarantees its long term sustainability.⁹⁰ A target for *marine food webs* states that the abundance, species composition and size distribution within the fish community shall maintain important functions in the marine food web.⁹¹

The Swedish targets, formulated to achieve good environmental status in the Baltic Sea and the North Sea, are qualitative rather than quantitative. Where information is available, indicators are also formulated as quantitative limit values (maximum, minimum or interval values). However, such quantitative formulations of the indicators are often lacking, in particular when it comes to fish related indicators.

As long as quantitative targets and/or functional quantitative indicators are lacking to a great extent, there is a risk that assessment of the achievement of good environmental status could become problematic.⁹² It should however be remembered that the process of assessment and formulation of targets and indicators are a continuous part of the adap-

⁸⁶ From an integrative perspective, it is also relevant that the Member States shall take into account “relevant existing environmental targets laid down in national, Community or international level” to ensure that the targets are “mutually compatible”, and that, however only to the extent possible, “transboundary impacts and transboundary features are also taken into account” (see article 10.1, para 2).

⁸⁷ Member States shall notify the Commission of the environmental targets within three months of their establishment, according to article 10.2.

⁸⁸ See *Havs- och vattenmyndighetens föreskrifter om vad som kännetecknar god miljöstatus för Nordsjön och Östersjön* (4 § HVMFS 2012:18, annex 2, part A, with the legal basis in 18 § *havsmiljöförordningen* (2010:1341)).

⁸⁹ 6 § HVMFS 2012:18, annex 3, with the legal basis in 19 § *havsmiljöförordningen*.

⁹⁰ Annex 3, C.3.

⁹¹ Annex 3, C.4.

⁹² See also *supra* at footnote 58 and Michanek and Zetterberg part 10.3.3 for a discussion on the legal status of different kinds of environmental quality standards.

tive planning cycle that aims at increasing knowledge over time. The first round of targets and indicators shall therefore be seen as preliminary, and be adjusted or complemented when knowledge increases over time.

2.2.3 Programmes of Measures According to the Water Framework Directive and the Marine Strategy Directive

Water Framework Directive (figure 1, item 1)

The WFD distinguishes between basic measures (minimum requirements) and supplementary measures. The basic, mandatory measures are “measures required to implement Community legislation *for the protection of water*, including measures required under the legislation specified in Article 10 and in part A of Annex VI” (authors’ italics). Measures under the Habitats Directive are listed here, which may include the protection of fish habitats, etc. The CFP is not listed, which indicates that it is not considered legislation that has a primary objective of protecting water. Measures addressed to fishing activities may instead be considered as “supplementary”, meaning member states shall include those “where necessary”, an expression providing for a considerable degree of discretion.⁹³

We have studied the present Swedish programmes of measures, adopted in 2009, not only for coastal waters, but also for rivers, lakes and transitional waters (inland waters are relevant from the CFP perspective as salmon and some other fish species migrate to and from inland waters). The programmes for the five Swedish water districts include, for some waters, fish species as an objective for protective measures in order to achieve or maintain a certain ecological status in waters. However, while protective measures are addressed to, for example, polluting factories and farms and hydro power installations, no specific measures are addressed to fishing activities in any kind of water body.

Marine Strategy Directive (figure 2, item 1)

Under the MSD, member states “shall, in respect of each marine region or subregion concerned, identify the measures which need to be taken in order to achieve or maintain good environmental status” and integrate the measures into a programme of measures.⁹⁴ Although fishery is not generally excluded as an addressee for measures, the MSD does not fo-

⁹³ Article 11.3.

⁹⁴ Article 13.1-2.

cus particularly on fishing activities. When developing the programme, member states shall take into account measures required under the WFD and certain other specifically mentioned directives related to water discharges and water quality.⁹⁵ The CFP regulation is not included among those. In fact, measures related to fishery “may”, according to the MSD preamble, instead be taken in the context of the CFP regulations;

“based on scientific advice with a view to supporting the achievement of the objectives addressed by this Directive, including the full closure to fisheries of certain areas, to enable the integrity, structure and functioning of ecosystems to be maintained or restored and, where appropriate, in order to safeguard, inter alia, spawning, nursery and feeding grounds.”⁹⁶

The subsequent question, then, is whether decision-making according to the CFP regulation will be made in accordance with the objective of the MSD. The formulation “with a view of supporting the achievement of the objectives” leaves room for considerable discretion.⁹⁷

There is a specific complication as regards programmes of measures for coastal waters. The MSD applies in such waters only “in so far as particular aspects of the environmental status of the marine environment are not already addressed through ... other Community legislation”.⁹⁸ The purpose is to avoid unnecessary overlaps. If the EU determines, for example, TACs for coastal waters in accordance with the CFP regulation, programmes of measures according to the MSD for coastal waters may subsequently not include such catch limits. The exclusion of MSD applies only as regards the “particular aspects” determined according to the CFP regulation; a CFP TAC should not hinder a MSD measure concerning e.g. avoiding a particular area or to use a particular fishing method within a certain marine area. However, the CFP regulation is also relevant when member states consider measures addressed to fishery under the MSD in territorial waters (which includes coastal waters); the states may take “non-discriminatory measures” for the conservation and management of fisheries resources as far as 12 nautical miles of its baselines, but if a measure is liable to affect the vessels of another Member State, a

⁹⁵ Article 13.2.

⁹⁶ Preamble, item 39.

⁹⁷ See *infra*, part 3.4.

⁹⁸ Article 3.1(b).

special procedure is necessary where the Commission and, occasionally, the Council have decisive powers.⁹⁹

2.2.4 Conclusions as Regards Water Framework Directive and Marine Strategy Directive

The WFD was not formulated to manage marine fish populations and marine fishing activities effectively in relation to the objectives of the directive, which include entire aquatic ecosystems. The directive does not integrate fish fauna as a *biological quality element* for classification of the ecological status in coastal waters. Neither are fish fauna considered as a biological element when determining objectives for such waters. Likewise, Swedish quality standards related to coastal ecological water status do not include fish fauna.

Fish species are a natural part of coastal aquatic ecosystems and ignoring them as biological factor may affect the ecological quality of this water category and, indirectly, the selection of measures to attain or maintain a good ecological status. However, the deficiency has wider geographical implications, as coastal water is one of several interrelated water bodies in the water basin. The legal deficit can in fact impact the potential to achieve or maintain good ecological status in inland water bodies. This becomes particularly apparent as regards the fish stocks that migrate, or should be able to migrate. One effect may be lack of genetic exchange between different fish stocks. Salmon and sea run brown trout offspring have been a dominant component of water-courses, where migration between different waters has been possible. It is therefore probably necessary that such species are protected also in coastal waters, which are natural parts of the running water ecosystem.¹⁰⁰

A general deficiency in the WFD is that it does not require *programmes of measures* to address fishing activities in any type of water. This is also shown in the Swedish implementation and formulation of programmes of measures; none of them addresses fisheries. Again, the ecosystem consequences are crucial, especially as regards migrating species. Lack of

⁹⁹ Article 9 and article 8.3-6. Compare article 26 in the proposal for new CFP regulation 2013. See also article 12 in the proposal, regulating the protection of marine areas in all waters and thereby affecting fishery.

¹⁰⁰ Moreover, the survival of other species, such as mussels, that spread their larvae with migrating fish, such as salmon or brown trout, could be negatively affected when migration within, at least, the non-coastal parts of the water course are lacking.

measures for fishing activities in coastal waters may affect the ecological status in inland waters and vice versa.

In principle, the MSD applies to fish and fishery in all marine waters within EU. However, although the MSD is far more specific than the WFD as regards integrating both knowledge of fish fauna and impacts from fishing activities in the different stages of the preparation of marine strategies (see figure 2 and part 2.2.2), member states may choose to disregard this knowledge, as the MSD allows significant discretion for the member states.

As regards fish and fishery in coastal waters, the MSD is not a full substitute to the WFD. First, the MSD does not apply here in so far as “particular aspects” of fish or fishery are already addressed in a CFP regulation and as the WFD not at all includes fish and fishery in coastal waters, a prior holistic approach to water management is counteracted.¹⁰¹ Second, the relatively wide discretion for member states according to the MSD (in relation to the WFD) may provide for variations as regards how fish and fishery aspects are addressed in coastal waters. Third, the MSD is administered separately from the WFD. One cannot take it for granted that the organisation appointed to administer MSD in a member state is as efficient as if the WFD Regional Water Boards administration were empowered to include fish and fishery aspects. Two administrations also necessitate a coordinated planning so that ecological connections between coastal waters and inland waters are not ignored, for example with regard to migrating fish species.

3 Common Fishery Policy Regulation – Fishery Management in EU Waters

As of this writing, CFP is in a state of flux. A new regulation is planned to be adopted in the fall of 2013 and to enter into force 1 January 2014. The 2002 regulation and its implementation deficits are also discussed in this section, which is useful for understanding the new regulation. We start with a short environmental and legal, historical background.

¹⁰¹ Article 3.1(b). *See further infra* part 3.4. *See also supra*, part 2.2.3, footnote 99, articles 9 and 8.3–6 can constitute obstacles for a member states that wishes to impose conservation measures within 12 nautical miles, if vessels of other member states are affected.

3.1 Background

“I believe, then, that the cod fishery, the herring fishery, the pilchard fishery, the mackerel fishery, and probably all the great sea fisheries, are inexhaustible; that is to say, that nothing we do seriously affects the number of the fish. And any attempt to regulate these fisheries seems consequently, from the nature of the case, to be useless.”¹⁰²

Thomas Huxley, a respected British scientist in biology and a disciple of Charles Darwin, would surely not have made this unfortunate statement in 1883 if he had realized how often he would be quoted later on at conferences and in articles addressing the issue of non-sustainable fishery. He should also have been more careful in his research as overfishing in some marine areas was occurring already in 1883.

One may joke about Huxley’s misconception, but the fact is that despite continuously improved scientific knowledge about the degradation of commercial fish stocks, we have for too long acted as if Huxley was right. On the whole, despite some recent improvements, overfishing of commercial fish species is on-going in most of the world’s marine waters,¹⁰³ including within the EU. According to a Commission communication in 2012, for the period 2003–2012, scientific results indicated that on average only 35 % of the fish stocks in North-East Atlantic and adjacent waters were inside safe biological limits¹⁰⁴ and that, for the period 2005–2012, on average 79 % of the stocks were overfished.¹⁰⁵ Fish catches within EU waters have declined in recent years. This is due to overfishing and in turn to overcapacity of the fishery fleet. Although the

¹⁰² Thomas Huxley, *Inaugural address*, Fisheries Exhibition, London 1883.

¹⁰³ See further *The State of World Fisheries and Aquaculture*, FAO Fisheries and Aquaculture Department, Food and Agriculture Organization of the United Nations, Rome, 2010, Part I (World Review of Fisheries and Aquaculture). According to the home page of FAO Fisheries and Aquaculture Department, “the state of wild marine resources raises concern as, since 1990, about a quarter are more or less seriously overfished”, www.fao.org/fishery/topic/2681/en.

¹⁰⁴ 29% (2003), 26% (2004), 35% (2005), 30% (2006), 32% (2007), 32% (2008), 31% (2009), 41% (2010), 44% (2011), 56% (2012), European Commission, *Communication from the Commission to the Council concerning a consultation on Fishing Opportunities for 2013*, 7.6.2012, COM(2012) 278 final.

¹⁰⁵ 94% (2005) 91% (2006), 94% (2007), 88% (2008), 86% (2009), 72% (2010), 63% (2011), 47% (2012), European Commission, *Communication from the Commission to the Council concerning a consultation on Fishing Opportunities for 2013*, 7.6.2012, COM(2012) 278 final.

size of the fleet has been reduced on average by 2 % yearly since 2002, the cutback is “broadly offset by technological progress in fishing efficiency (estimated at 2 to 3 % a year)”.¹⁰⁶

The legal history of CFP began in 1957, in the Treaty of Rome,¹⁰⁷ although agriculture was at that time regarded as far more politically and economically important than fishery among the six Community member states.¹⁰⁸ The inclusion of further member states, some with highly important fishing industries (e.g. Spain and Portugal), lead to increasing exploitation of fish resources in EU waters and subsequently to a growing awareness of non-sustainable fishing activities.¹⁰⁹ Today, the TFEU imposes a duty for the EU to “define and implement a common ... fisheries policy”.¹¹⁰ The EU has exclusive competence in the field of “conservation of marine biological resources under the common fisheries policy”. This means, generally, that only EU institutions may legislate and adopt legally binding acts in this field.¹¹¹

The first CFP regulation was adopted in 1983¹¹² and has been reviewed every tenth year thereafter.¹¹³ The awareness of overfishing has increased over time. It was highlighted in a Green Paper before the adoption of the 2002 regulation, where the Commission stated that many stocks were outside safe biological limits.¹¹⁴ The Sixth Community Environment Action Programme, adopted 2002, indicated the need for “greater in-

¹⁰⁶ Green Paper, p. 7.

¹⁰⁷ Treaty Establishing the European Community (EEC), article 38. The development of CFP is outlined in R. Churchill and D. Owen, *The EC Common Fisheries Policy*, Oxford University Press, 2010 (hereafter Churchill and Owen), p. 3–28.

¹⁰⁸ Ibid, p. 4.

¹⁰⁹ Churchill and Owen, p. 3 ff.

¹¹⁰ Treaty of the Functioning of the European Union (TFEU), article 38.1.

¹¹¹ TFEU, article 3(d). Member States are empowered to decide upon these matters only “if so empowered by the Union or for the implementation of Union acts”, TFEU, article 2.1. As regards other fishery issues, the competence is shared between the EU and its member states, TFEU, article 4.2(d).

¹¹² Council Regulation (EEC) No 170/83 of 25 January 1983 establishing a Community system for the conservation and management of fishery resources.

¹¹³ *Council Regulation (EC) No 2371/2002 of 20 December 2002 on the conservation and sustainable exploitation of fisheries resources under the Common Fisheries Policy.*

¹¹⁴ Green Paper on the Future of the Common Fisheries policy, COM(2001) 135, 20.3.2001, part 1.

tegration of the environmental considerations in the Common Fisheries Policy, taking the opportunity of its review in 2002”.¹¹⁵

However, the 2002 regulation has not been sufficient to solve the problem of non-sustainable fishery in EU waters and its conservation inefficiency was strongly criticised in a 2009 Green Paper. This time, the Commission called for “a whole-scale and fundamental reform” dealing with the “core reasons behind the vicious circle in which Europe’s fisheries have been trapped in recent decades”.¹¹⁶ The need for integration between fisheries and marine water management was clearly emphasised.¹¹⁷ In 2011, the Commission adopted a proposal for a new CFP regulation.¹¹⁸

The following parts of section 3 highlight the question of how the 2002 CFP regulation and the proposed 2013 regulation tackle impacts from fishing activities on marine ecosystems. However, this question has a wider legal background. First, the integration principle in article 11 TFEU applies: “Environmental protection requirements must be integrated into the definition and the implementation of the Union’s policies and activities, in particular with a view to promoting sustainable development”. A principle of good governance concerning the consistency of CFP “... with other Community policies, in particular with environmental ... policies” is moreover articulated in article 2.2(d) of the CFP regulation. Secondly, the CFP regulation is related to international law. UNCLOS includes requirements on fishery to conserve marine living resources. The scope of these provisions goes beyond a single species approach. The parties shall “maintain or restore populations of harvested species at levels which can produce the maximum sustainable yield, as qualified by relevant *environmental* and economic factors” (authors’ italics). Furthermore, coastal states “shall take into consideration the effects on species *associated with* or *dependent upon* harvested species with a view to maintaining or restoring populations of such associated or dependent species above levels at which their reproduction may become seriously

¹¹⁵ Sixth Community Environment Action Programme, article 6.2(g).

¹¹⁶ Green Paper, p. 5.

¹¹⁷ See *infra*, part 3.3.1.

¹¹⁸ *Supra*, section 1, footnote 21. At the time of writing the latest amended proposal was adopted in June 2013. See further, *infra* part 3.3.

threatened” (authors’ italics).¹¹⁹ The CBD also requires integration of biodiversity aspects in different sectors, although in very vague terms.¹²⁰

3.2 CFP Regulation 2002

3.2.1 *Objectives and Measures*

The overall objective in article 2.1 of the 2002 CFP regulation is to “ensure exploitation of living aquatic resources that provides sustainable economic, environmental and social conditions”. In view of the preamble, article 2.1 seems to reflect a “three pillar concept” where sustainable development means “taking account of the environmental, economic and social aspects in a balanced manner”.¹²¹ However, according to the definition in article 3(e) of the words “sustainable exploitation” in article 2.1, the exploitation is “sustainable” only if the;

“future stock will not be prejudiced and that it does not have a negative impact on the marine eco-systems.”

Apparently, the definition includes only *environmental* criteria. As the definition concerns the wider term “sustainable” (and not just environmentally sustainable), no prejudice to the fish stock and – which is of particular interest with respect to the topic of this article – no “negative impact on the marine eco-systems” should be seen as two minimum requirements, *superior* to the economic and social interests mentioned in article 2.1.¹²² This interpretation is not incoherent with article 2.1, as balancing of the three interests still is possible in situations where the two minimum requirements are met. However, this is not how the regulation has been applied in practice.¹²³

It is of particular interest here that, for the purpose of sustainable exploitation, article 2.1 stipulates, first, the application of a “precautionary approach” in taking protective measures to, inter alia, “minimise the im-

¹¹⁹ UNCLOS, articles 61.3–4 (economic zone) and 119.1 (high seas).

¹²⁰ CBD, article 6. Integration is required in accordance with the parties “particular conditions and capabilities” and “as far as possible and as appropriate”. The CFP international law context as regards environmental integration into fishery management, e.g. Fish Stocks Agreement, is further analysed in Churchill and Owen, p. 122 ff.

¹²¹ Preamble, item 4.

¹²² Compare discussion *supra*, section 1.

¹²³ *Infra*, part 3.2.2.

pact of fishing activities on marine eco-systems” and, second, “a progressive implementation of an eco-system-based approach to fisheries management”.¹²⁴ To achieve the objective in article 2.1, the CFP regulation includes certain “measures”, which are concretised in decisions by the Council. The measures are of three kinds: “fishing effort limitations” (e.g. size of the fishing fleet, engine power and catching times), “catch limits” and “technical measures” (how and where to fish: gear restrictions, minimum fish sizes, fishing zones etc.).¹²⁵

Catch limits, in terms of *Total Allowable Catch (TAC)* and *quotas* are probably the most essential tools for implementing the CFP objectives.¹²⁶ TACs are set for the commercially most important stocks and defined as “the quantity that can be taken and landed from each stock, normally during one year”.¹²⁷ Member states obtain shares – national quotas (%) – of the total TAC. This quota is in turn the basis for allocation of fishing quotas to individual fishing fleets.¹²⁸ TACs were previously adopted without strategic considerations.¹²⁹ Acknowledging scarcity and ecological complexity, TACs are now often linked to long term *recovery plans* and *management plans*, adopted by the Council. Recovery plans are used for stocks which are outside safe biological limits and seek to reach these limits again.¹³⁰ Management plans aim to maintain stocks within safe

¹²⁴ Article 2.1, second paragraph. See also article 2.2, the CFP shall “be guided by” certain principles, e.g. “consistence ... in particular ... with environmental ... policies”.

¹²⁵ Article 4.2(d–g).

¹²⁶ T. Markus, *Making Environmental Principles Work under the Common Fisheries Policy*, in *European Energy and Environmental Law Review*, Volume 19 (2010), Issue 3, p. 134 (hereafter Markus).

¹²⁷ Council regulation (EC) No 40/2008 of 16 January 2008 fixing for 2008 the fishing opportunities and associated conditions for certain fish stocks and groups of fish stocks, applicable in Community waters and, for Community vessels, in waters where catch limitations are required, article 3(a). The corresponding term in CFP regulation, article 4 is “limiting catches”. Article 3(m) defines “catch limit” as “a quantitative limit on landings of a stock or group of stocks over a given period unless otherwise provided for in Community law.

¹²⁸ Article 20. The allocation to member states is determined in accordance with a principle of “relative stability”, article 20.1, basically based upon states historical catches, see further preamble, item 16–18 and Churchill and Owen, pp. 149 ff.

¹²⁹ Churchill and Owen, p. 134 ff.

¹³⁰ Article 5.

biological limits. Both plans include “conservation reference points” such as targets.¹³¹ They may also include different kinds of measures.

The required measures are not solely aimed at protecting single fish species. As previously mentioned, the function of TACs, recovery plans, management plans etc. is to implement the objective of article 2.1, which includes the precautionary approach (aiming to minimise impacts on ecosystems) and the ecosystem approach. Several additional provisions are also of interest. The Council’s decisions on concrete measures, e.g. TAC, are based on non-binding reports from RAC, STEFC and ICES,¹³² which include scientific and other advice. These “may” encompass “the environmental impact” of fishing activities.¹³³ Furthermore recovery plans “shall”, among other things, “ensure ... that the impact of fishing activities on marine eco-systems is kept at sustainable levels”.¹³⁴ However, this obligation to protect the ecosystem is not very precise and is part of an article that foremost focuses on requirements to recover single fish stocks. As the prime objective of recovery plans is to “ensure the recovery of stocks to within safe biological limits”,¹³⁵ there is a risk that impacts on the ecosystem are not given attention.

Furthermore, both recovery and management plans shall include conservation reference points such as “targets”, against which the recovery and maintenance of the stocks to within safe biological limits shall be assessed. These targets “shall” be expressed in terms of population size and some other criteria related to the fish stock. However, with regard to targets “relating to other living aquatic resources and the maintenance

¹³¹ Article 6. There is a variety of recovery and management plans, *see further* Churchill and Owen, p. 135.

¹³² Regional Advisory Councils (RACs) are regional stakeholder fisheries organisations established by the CFP reform of 2002, with the purpose of providing recommendations to the Commission and member states on fisheries management issues. *See* articles 7, 31 and 32 of the CFP regulation. *See also Council Decision of 19 July 2004 establishing Regional Advisory Councils under the Common Fisheries Policy (2004/585/EC) and Council Decision of 11 June 2007 amending Decision 2004/585/EC establishing Regional Advisory Councils under the Common Fisheries Policy.* The Scientific, Technical and Economic Committee for Fisheries (STEFC), established according to article 33 of the CFP regulation, shall be consulted at regular intervals and the Commission shall take into account the advice of committee. In practice, advice from the International Council for Exploration of the Sea (ICES) has significant impact on decision-making.

¹³³ Article 4.

¹³⁴ Article 5.3.

¹³⁵ Article 5.

or improvement of the conservation status of marine eco-systems”, the regulation is allowing but not requiring: the plans “may” include such targets.

To conclude, there are several provisions besides the objective in article 2.1 that includes references to the ecosystem approach or the wider environmental context, but not in terms of clear legal obligations.

3.2.2 Implementation Deficits in Practice

The decision-making process related to the CFP regulation is crucial for assessing whether single stocks are maintained at sustainable levels, as well as whether the ecosystem approach is realized. On a proposal from the Commission, the Council “shall adopt measures on fixing prices, levies, aid and quantitative limitations and on the fixing and allocation of fishing opportunities”.¹³⁶ This includes, inter alia, the determination of TACs for a certain area and period of time. TACs are stipulated in specific regulations. These are decided upon by the Council alone (not together with the Parliament).¹³⁷ The Council “shall” take into account scientific and other advice submitted by different organisations, such as STECF and RAC,¹³⁸ including not only the state of single stocks but also the “environmental impact” of fishing activities.¹³⁹ Although the wording “taking into account” provides for certain discretion, ignoring scientific information showing severe degradation of fish stocks, is not, in our opinion, permissible, in light of the fact that the *minimum* sustainability requirements are “no prejudice to fish stocks” and “no impact on the marine ecosystem”, and that the Council is bound to apply the precautionary principle.

¹³⁶ TFEU, article 43.3.

¹³⁷ Since the adoption of the Lisbon Treaty in 2009, the Parliament and the Council have shared legislative powers regarding all decisions under the Common Fisheries Policy, except those listed in article 43.2 of the *Treaty of Lisbon amending the Treaty on European Union and the Treaty establishing the European Community*, OJ 2007 No. C306, Exceptions from shared legislative powers concern “fixing prices, levies, aid and quantitative limitations and on the fixing and allocation of fishing opportunities” (TFEU article 43.3.). The meaning of the exceptions “quantitative limitations” and “fixing and allocation of fishing opportunity” has been specified in the basic regulation of the CFP. In short, the exemptions include two important quantitative measures TACs and TAEs (i.e. catch and effort limits) described supra, part 3.2.1.

¹³⁸ Articles 4(2), 31 and 33.

¹³⁹ Article 4(2).

Still, statistics reveal that the Council's decisions on TACs deviate significantly from the submitted scientific advice. These statistics concern single fish species, but presumably are indirectly relevant to the status of entire marine ecosystems. The Commission reported in 2012 that, during the period 2003–2012, the Council's decisions on TACs for fishing in North-East Atlantic and adjacent waters exceeded the scientific recommendation by an average of 41 %.¹⁴⁰ Another study, examining the scientific recommendations and Council's decision on TACs for 11 species in nine different management zones across EU waters¹⁴¹ between 1987 and 2011, show that the politically determined TACs on average were set 33 % higher than the scientifically recommended levels.¹⁴² The authors moreover show that these high levels dramatically increase the risk that the fish stocks will collapse within 40 years.

The political context is highly relevant. The Council consists of fishery ministries appointed by the member states' governments, several of whom are under strong pressure from state fishery industries. It seems therefore that short term political interests supersede the legal sustainability objectives, here reflected and specified in scientific information.¹⁴³

An additional difficulty in achieving sustainability objectives is that the Council's decisions are not legally challenged in practice. The Commission and the member states are probably too much involved in the decisions to question the Council's standpoint in the CJEU, while the right of access to the CJEU for individuals and environmental organisations is legally very restrictive and in practice not an option.¹⁴⁴

¹⁴⁰ 46 % (2003), 49 % (2004), 59 % (2005), 47 % (2006), 45 % (2007), 51 % (2008), 48 % (2009), 34 % (2010), 23 % (2011) and 11 % (2012), European Commission, *Communication from the Commission to the Council concerning a consultation on Fishing Opportunities for 2013*, 7.6.2012, COM(2012) 278 final, p. 12.

¹⁴¹ The study included several different waters, such as subareas in the Baltic Sea, Skagerrak and Kattegat, the North Sea, subareas of the North-East Arctic, Icelandic division Va, Clyde and Rockall, West of the British Isles and English Channel, the Irish Sea, Spain, Portugal and the Bay of Biscay.

¹⁴² TACs exceeded the recommended levels in 68 % of the decisions. See Bethan et al. *Fisheries Management*, in *Marine Pollution Bulletin* 62(12), p. 2644–45, December 2011.

¹⁴³ Markus instead argues that “it is likely that the Council practice is compatible with article 2 given the vague formulation of article 2 and that the provision is entitled “objective”. Markus, p. 136.

¹⁴⁴ See further Markus, p. 138 f.

Finally, the CFP “Control and Enforcement System”¹⁴⁵ is generally regarded as ineffective in practice and as one of the key reasons for failures of the present CFP.¹⁴⁶ Member states are primarily responsible for supervision and control of legally decided TACs and other measures. The Commission supervises the member states’ control and may also make their own inspections.¹⁴⁷

3.3 CFP Regulation 2013

3.3.1 Background

In the CFP proposal 2011,¹⁴⁸ the Commission identified several “main problems” of the 2002 CFP, e.g.:

- Lack of focus in the objectives on environmental, economic and social sustainability.
- Unacceptably high levels of discards.
- Fleet overcapacity (which is the fundamental problem of the CFP),¹⁴⁹ overfishing, total allowable catches (TACs) that are set too high and low compliance. These factors have resulted in a large majority of Union stocks being overexploited.
- Insufficient integration of environmental concerns into the policy.¹⁵⁰

¹⁴⁵ CFP regulation, chapter V. See also the supplementary Council Regulation (EC) No 1224/2009 of 20 November 2009 establishing a Community control system for ensuring compliance with the rules of the common fisheries policy.

¹⁴⁶ Green Paper, p. 8. See also M. Salomon and K. Holm-Müller, *Towards a sustainable fisheries policy in Europe*, in *Fish and Fisheries 2012*, “onlinelibrary.wiley.com/doi/10.1111/faf.12009/pdf”, p. 4 (hereafter Salomon and Holm-Müller), p. 7.

¹⁴⁷ See further Salomon and Holm-Müller, p. 7. The European Fisheries Control Agency was established in 2005 with the aim of pooling national and Union control and inspection resources. Inadequately working economic sanctions lead to the introduction of a new regulation in 2008, too early to evaluate, *ibid.*, p. 7 f.

¹⁴⁸ After negotiations between the Parliament and the Council several amendments have been made. These amendments, where relevant for the analysis in this paper, will be pointed out. At the time of writing the latest consolidated text was adopted in June 2013 (see *supra* footnote 99). Before entering into force formal adoption of Coreper and the Parliament plenary is necessary.

¹⁴⁹ Green Paper, p. 8. Economic incentives have basically failed to reduce the fleet capacity, Salomon and Holm-Müller, p. 8 f.

¹⁵⁰ CFP proposal 2011, p. 1(f).

The proposal includes several important changes and also innovations, including transferable fishery concessions, a discard ban,¹⁵¹ reduction of the fleet capacity, cessation of economic aid and regionalisation of decisionmaking. None of these are analysed here.¹⁵²

The following part discusses the objectives and measures in the proposal, with special attention to the ecosystem approach. The official political message in the CFP reform is in this respect quite clear. To quote the Commission's Green Paper:¹⁵³ "The fisheries sector can no longer be seen in isolation from its broader maritime environment and from other policies dealing with marine activities. Fisheries are heavily dependent on access to maritime space and to healthy marine ecosystems." This broader environmental approach is reflected also in the preamble to the Commission's CFP proposal 2013.¹⁵⁴

3.3.2 Objectives and Measures

A "general objective" in the proposed CFP regulation is to "ensure that fishing and aquaculture activities are *environmentally sustainable in the long-term* and are managed in a way that is consistent with the objectives of achieving economic, social and employment benefits, and of contributing to the availability of food supplies" (authors' italics).¹⁵⁵ There is thus no clear priority between the achievement of long-term environmental sustainability and economic and social interests, although obvious risks for conflicts. Strikingly, the CFP proposal revokes the definition in article 3 of the CFP regulation 2002, which names certain environmental criteria as minimum sustainability requirements.¹⁵⁶ One of those – "no prejudice to future fish stocks" – is not a necessary legal precondition.

¹⁵¹ Although this measure is out of the scope of the analysis in this article it is worth mentioning that after amendments in the CFP proposal 2011, a *discard reduction* is a more appropriate term. Several amendments have been made to article 15 (see also the preamble, item 9, which has been amended from stating that unwanted catches should be "minimized and progressively eliminated" to "avoided and reduced as far as possible").

¹⁵² See instead Salomon and Holm-Müller, p. 4. See also T. Markus and M. Salomon, *The Law and Policy Behind the Upcoming Reform of the Common Fisheries Policies*, in *Journal for European Environmental & Planning Law*, 9(3-4) 2012 p. 257–284.

¹⁵³ Green Paper, p. 5.

¹⁵⁴ CFP proposal 2013, items 9, 17, 17(a), 18, 25, 25(a) and 34, further described *infra*, part 3.4.

¹⁵⁵ CFP proposal 2013, article 2.1.

¹⁵⁶ *Supra*, part 3.2.1. This deficiency has not been amended in the later adopted texts.

tion in the proposal. The other minimum criterion in the 2002 regulation – “not have a negative impact on the marine eco-systems” – is also excluded in the 2013 CFP proposal.¹⁵⁷ The removal of the definition is partly compensated by the latest amendment of the definition of the ecosystem approach, which is defined as an approach to manage fisheries “*within ecologically meaningful boundaries*” (authors’ italics), but as will be explained in the following, the ecosystem approach is not the same a minimum requirement.

The “ecosystem based approach to fisheries”, “shall” be implemented “to ensure that negative impacts of fishing activities on the marine ecosystem are minimised” and “endeavour to ensure that aquaculture and fisheries activities avoid the degradation of the marine environment”.¹⁵⁸ Compared to the CFP proposal 2011, as well as the current CFP regulation, this is a more far-reaching objective, although not entirely unambiguous.¹⁵⁹ The CFP proposal 2013, states that the ecosystem approach should ensure that impacts are “minimised”. This is a sharper word than “limited” (CFP proposal 2011), although the objective is not explicitly to avoid negative impacts on ecosystems. As regards the latter part of the amendments, “... shall *endeavour* to ensure... (authors’ italics)”, the wordings give quite a lot of room of discretion. Moreover, the definition of ecosystem based approach in the CFP proposal 2013 is of interest;

“an integrated approach to managing fisheries within ecologically meaningful boundaries which seeks to manage the use of natural resources, taking account of fishing and other human activities, while preserving both the biological wealth and the biological processes necessary to safeguard the composition, structure and functioning of the habitats of the ecosystem affected, by taking into account the knowledge and uncertainties about biotic, abiotic and human components of ecosystems”.¹⁶⁰

The definition proposed 2013 marks more clearly than the definition in CFP proposal 2011 that limits to fisheries are set by ecological prerequisites. The 2013 definition is also in line with the definition given by

¹⁵⁷ The ecosystem approach, described below, shall however be implemented to minimize negative impacts on marine ecosystem from fisheries (see CFP proposal 2013, article 2.3).

¹⁵⁸ CFP proposal 2013, article 2.3.

¹⁵⁹ CFP proposal 2011, article 2.3.

¹⁶⁰ CFP proposal 2013, article 5. “Taking account to” is weaker than “ensuring benefits” as formulated in the definition in CFP proposal 2011.

the FAO, and as there is no definition in the current CFP regulation, the proposal is an improvement.¹⁶¹

In sum, the meaning of “ecosystem approach” in the new fisheries regulation is a step forward in comparison to the current situation with no definition at all, as well as compared to the CFP proposal 2011. However, there is still some ambiguity concerning the obligation to implement the approach, in particular following from the wording “endeavour to ensure”. The CFP proposal 2013 does therefore not *ensure* the safeguarding of the health of marine ecosystems.

On a more concrete level, the proposed reform introduces the general objective to restore and maintain populations of harvested species above levels that, by 2015, can produce *Maximum Sustainable Yield* (MSY).¹⁶² This objective stems from a commitment made by the EU at the 2002 World Summit.¹⁶³ It means basically that we shall fish at levels that do not endanger the reproduction of stocks and that provide high long-term yields.¹⁶⁴ Through the amendments after the CFP proposal in 2011, there is now a target to rebuild fish stocks *above biomass levels* capable of producing MSY, but only “where possible” in 2015 (at latest 2020 for all species).¹⁶⁵ However, the statement in the preamble, at item 5, should narrow the discretion in interpreting the exception to reach the target later than 2015. It is stated that “achieving those exploitation rates by a later date *should be allowed only* if achieving them by 2015 would *seriously jeopardise* the social and economic sustainability of the fishing fleets involved (authors’ italics).”¹⁶⁶

¹⁶¹ See FAO definition, *supra* section 1. It is however not clear how the word “meaningful” is to be defined.

¹⁶² CFP proposal 2011, article 2.2. MSY was introduced in UNCLOS already in 1982.

¹⁶³ Report of the World Summit on Sustainable Development, Chapter 1, Resolution 2, Plan of Implementation, paragraph 31(a). See also Communication from the Commission to the Council and the European Parliament. Implementing sustainability in EU fisheries through maximum sustainable yield COM(2006) 360, 4.7.2006.

¹⁶⁴ MSY as a basic requirement is also included in UNCLOS, part V, article 61.3 (exclusive economic zone) and part XI, article 119 (high seas), but includes the formulation “as qualified by relevant environmental and economic factors”, which could be interpreted so that ecological sustainability is set aside.

¹⁶⁵ CFP proposal 2013, article 2.2. It is however not explicitly expressed that the fisheries mortality must be set *below* the fisheries mortality rate reaching MSY.

¹⁶⁶ CFP proposal 2013, preamble, item 5.

For overexploited fish stocks, introduction of MSY would mean very far-reaching restrictions initially, but as stocks hopefully improve,¹⁶⁷ increased fishing possibilities at lower cost and with a higher unit value. It is indeed a radical shift from how the CFP regulation is applied today – maintaining a minimum population level in order to prevent collapse of the current fish stock – to MSY, where long time sustainability is the target. However, MSY has been strongly criticized for disregarding important factors, such as fish size and age, complexity of stock biology, species interaction and variability and trends in ecosystem capacity.¹⁶⁸ Obviously, the possibility to postpone reaching the objective until 2020 is a drawback as well.

One of the proposed measures is *multi-annual* plans, which are replacing today's recovery and management plans. Multi-annual plans have in practice already been used for a number of important fish stocks. In the CFP proposal 2013, multi-annual plans shall legally be established as a priority.¹⁶⁹ However, no explicit time frames are set out. The plans *shall* be based on “scientific, technical and economic advice” and contain “conservation measures” to both restore and maintain fish stocks above levels producing MSY “*in accordance with Article 2(2)*” (authors' italics).¹⁷⁰ The plans shall provide for measures based upon the precautionary principle when targets relating to MSY “cannot be determined owing to insufficient data”, “ensuring at least a comparable degree of conservation of the relevant stocks”.¹⁷¹

To what extent do multi-annual plans implement the multi-species and ecosystem approaches? Multi-annual plans shall cover either (a) single species or (b) “in the case of *mixed fisheries*”¹⁷² or where the *dynamics of stocks relate to one another*, fisheries exploiting *several stocks* in a relevant geographical area, taking into account knowledge about the *interactions*

¹⁶⁷ This depends on different factors, e.g. the water quality and the status of other species in the food web.

¹⁶⁸ Salomon and Holm-Müller, p. 4. The authors discuss different critical standpoints regarding MSY and also alternative MSY concepts, including safety buffers.

¹⁶⁹ CFP proposal 2013, article 9.1.

¹⁷⁰ CFP proposal 2013, article 9.1.

¹⁷¹ CFP proposal 2013, article 9.2.

¹⁷² Mixed fisheries is defined as fisheries “in which more than one species is present and is likely to be caught together with other species in the same fishing operation”, CFP proposal 2013, article 5.

between fish stocks, fisheries and *marine ecosystems*" (authors' italics).¹⁷³ Thus, to our understanding of the wording, the plans *shall* take into account knowledge on ecosystem interactions when several species are exploited, intentionally or unintentionally, by fisheries.¹⁷⁴ This is however not the case when it comes to fisheries exploiting *single* species, although fisheries exploiting only one species may have negative effects in practice on other species and the marine ecosystems (e.g. through the food web).¹⁷⁵

The ecosystem approach is, rather vaguely and not systematically, implemented in parts of the provisions on multi-annual plans. Article 9.5, for example, recognises the potential problem of reaching MSY for several stocks at the same time and states that plans *may* contain "specific conservation objectives and measures *based on the ecosystem approach*, to address specific problems of mixed fisheries in relation to achieving the objectives referred to in Article 2(2)" (authors' italics).¹⁷⁶ Moreover, objectives laid down in plans must be consistent with article 2, i.e. the ecosystem approach, but only "as appropriate".¹⁷⁷ When it comes to concrete measures to be specified in the plans there are no strict obligations to include ecosystem considerations. The plans *may* contain measures to minimize negative impacts of fishing on the ecosystem and "*where appropriate*, specific objectives for the freshwater part of the life cycle of anadromous and catadromous species" (authors' italics).¹⁷⁸

¹⁷³ CFP proposal 2013, article 9.3(b). Article 9 contains several amendments compared to the proposal in 2011.

¹⁷⁴ The original proposal did not include "marine ecosystem". Moreover, the formulation "where possible" has been eliminated from the obligation to cover the multi-species and the ecosystem approach. The formulation to take into account interaction based on "knowledge", shall be read in the light of the obligation to apply the precautionary approach laid down in article 9.2 and 2.2. This is in particular important when it comes to ecosystem considerations, since knowledge often are lacking.

¹⁷⁵ CFP proposal 2013, article 9.1(a).

¹⁷⁶ CFP proposal 2013, article 9.5. There is, at the moment on-going negotiations on how to determine MSY in mixed fisheries. Oral information from Isabella Lövin, European Parliament, on the 29 of October 2013.

¹⁷⁷ CFP proposal 2013, article 11.1(w).

¹⁷⁸ CFP proposal 2013, article 11.2(a) and (c). The provision concerns fish species migrating between freshwaters and marine waters. There are e.g. no precise requirements related to the ecosystem that are possible to effectively monitor and evaluate, such as quantifiable targets for marine ecosystems. Note also that the proposed item 17 in the preamble of CFP proposal 2011, stating that multi-annual plans should "establish quan-

In sum, the primary function of the multiannual plans is to achieve MSY, a target set for *commercially exploited* species and not developed as a multi-fish species or ecosystem based instrument.¹⁷⁹ Contrary to what is expressed in the preamble regarding multi-annual plans,¹⁸⁰ the proposal does not lay down a framework ensuring the achievement of the broader objectives of the proposed CFP regulation, which e.g. includes to “ensure that that negative impacts of fishing activities on the marine ecosystems are minimized”.¹⁸¹

Finally, the CFP proposal 2013 stipulates several far-reaching ecosystem considerations in relation to technical measures (the use of fishing gears etc.). Proposed measures to be included are e.g. fishing gears to improve selectivity or minimize negative impacts on ecosystem, requirements to halt fisheries within a certain area and time period to protect endangered species, spawning fish, fish below minimum conservation reference size and other vulnerable marine resources as well as specific measures to minimize the negative impact on marine biodiversity and marine ecosystems.¹⁸² However, such measures “may” (not “shall”) be included. Although the objective in the reform is clear – the ecosystem approach “shall” be implemented – the formulation in article 7.2 provides for discretion.

3.4 Is the Common Fishery Policy Ruled by Adaptive Planning in Water Framework Directive and Marine Strategy Directive?

An overall presumption in this article is that integration of the ecosystem approach into the CFP, in particular with a view to promoting sustainable development, cannot be conducted effectively without prior consid-

tifiable targets for the sustainable exploitation of stocks *and marine ecosystems concerned* (author’s italics) has been removed from the CFP proposal 2013.

¹⁷⁹ See definition in the CFP proposal 2013, article 5. See further Salomon and Holm-Müller, p. 4. The practical consequences of MSY, e.g. for a discard ban, may of course have positive effects also on the conservation of other species and the marine ecosystem.

¹⁸⁰ Preamble, item 17. See e.g. the wording “establish a framework for sustainable exploitation of stocks *and marine ecosystems concerned*”, “to contribute to the sustainable exploitation of the stocks *and the protection of the marine ecosystems concerned*” (authors’ italics).

¹⁸¹ See in particular CFP proposal, article 2.3.

¹⁸² CFP proposal 2013, article 7.2(r)(ii), (t) and (u).

eration of the entire aquatic ecosystem and how it is affected by different activities. Both the WFD and MSD recognise this holistic approach. We are now approaching the second research question: the relevance of adaptive planning in the WFD and MSD in connection with decision-making according to the CFP.

However, it should first be reiterated that there is a clear intention *notwithstanding the WFD and MSD*, on the overarching level, to integrate an ecosystem approach in the implementation of the CFP regulation.¹⁸³ This conclusion is based upon international law and the integration principle (article 11 TFEU) and upon the basic objectives and the good governance principle on consistency between policies, stipulated in the 2002 CFP regulation and the CFP proposal 2013.¹⁸⁴ A number of EU policy documents verify this approach,¹⁸⁵ not least the 2002 Sixth Community Environment Action Programme calling for “greater integration of environmental considerations in the Common Fisheries Policy, taking the opportunity of its review in 2002”.¹⁸⁶ The need for integration is presumably no less important in connection with the 2013 CFP review.

The wider environmental approach is reflected also in the CFP provisions on different kinds of measures to implement the objectives, but not in detail and not in terms of clear obligations addressed to the decision maker.¹⁸⁷ It is in this context important to observe that the new requirement on MSY in the CFP proposal 2013 does not explicitly relate to the ecosystem approach (let alone that the planning in practice may have positive effects on marine ecosystems). In other words, the law does not *ensure* that wider environmental considerations are in fact taken by the Council in order to implement the CFP objectives.¹⁸⁸

¹⁸³ Parts 3.1–3.3.

¹⁸⁴ The principles of good governance are formulated in article 2(2) in the 2003 CFP regulation, *supra* part 3.1, *see also* CFP proposal 2013, article 4(j).

¹⁸⁵ *See further* Markus, p. 136 f.

¹⁸⁶ Sixth Community Environment Action Programme, article 6 g.

¹⁸⁷ *See also* CFP, article 7, the commission “may” decide upon emergency measures “if there is evidence of a serious threat to the conservation of living aquatic resources, or to the marine eco-system resulting from fishing activities. This is an extraordinary situation, not directly relevant for the topic of this article.

¹⁸⁸ As mentioned, *supra* part 2.2.3 and footnote 99, there is a right for member states to adopt fisheries measures for *conservation purposes in territorial waters* according to the current CFP regulation out to 12 nautical miles from the baseline, however only under certain restrictions. Moreover, decisions are taken by the Commission, and can be overruled by the Council, when measures might *affect other member states*. In addition, the

What is then the legal basis for *integrating the WFD and MSD adaptive planning* in decision-making according to the CFP? On a general level, such integration is in line with the integration principle in the TFEU, supported by policy documents such as the 2002 Sixth Community Environment Action Programme, as mentioned above. The preambles of the MSD and WFD are more explicit. The MSD shall “foster the integration of environmental concerns into other policies, such as the Common Fisheries Policy”.¹⁸⁹ Furthermore, “the Common Fisheries Policy, including the future reform, should take into account the environmental impacts of fishing and the objectives of this Directive.”¹⁹⁰ The preamble in WFD indicates that “further integration of protection and sustainable management of water into other Community policy areas such as ... fisheries ... is necessary.”¹⁹¹ A study of the proposals for a new CFP regulation also indicate on a general level the desire to link the CFP regulation to the MSD, but not explicitly to the WFD. The 2009 Green paper indicated the need to relate to the Integrated Maritime Policy (IMP) and the MSD.¹⁹² According to the CFP proposal 2013, the CFP “should contribute to the protection of the marine environment, and in particular to the achievement of good environmental status by 2020 the latest” as set out in MSD.¹⁹³

However, despite intentions on a policy level to integrate the CFP with the especially the MSD and also the WFD (in the preamble of WFD), there are a number of factors that counteract the influence of MSD and WFD adaptive planning. First, no provision in the CFP regulations 2003 or in the CFP proposal 2013 requires *explicitly* the decision maker to observe specified water status objectives and water quality standards (or targets) or programmes of measures adopted in accordance with the MSD

CFP proposal 2013, proposes an authorisation of member states to adopt conservation measures in all waters under their jurisdiction to comply with obligations laid down in the MSD, the Birds Directive and the Habitats directive, however concerning marine protected areas only. Moreover, if such measures are likely to affect fisheries of other member states the Commission is empowered to adopt the measures. *See* article 12 and preamble, item 17 a.

¹⁸⁹ MSD, preamble, item 9.

¹⁹⁰ MSD preamble, item 40.

¹⁹¹ WFD, preamble, item 16.

¹⁹² Green Paper, p. 5.

¹⁹³ CFP proposal 2013, preamble, item 8. The objective “the sustainable management of all commercially exploited species” has been added to item 8 in the CFP proposal 2013.

and WFD. In fact, there is no reference at all to the MSD or WFD in the current CFP provisions that *require measures*. With regard to the strong political influence from fishery interests in the CFP decision-making, clear legal obligations are necessary to ensure integration.¹⁹⁴

Secondly, the geographical division of the scope of the two directives is without any ecological rationale.¹⁹⁵ Fish and fisheries in coastal waters are not covered by the WFD, but not by the MSD either if a particular marine environmental aspect related to fish or fishery is already regulated by a CFP regulation. Thus, the legal construction opens for the CFP to “take the lead” by excluding fish and fishery aspects from the holistic planning that, in reverse, should be prior to CFP decisions.

Thirdly, a similar remark concerns the member states programmes of measures according to the MSD. To reiterate,¹⁹⁶ the MSD does not require that the programmes address fishing activities. Instead, such measures may be adopted under the CFP-regulation;

“based on scientific advice with a view to supporting the achievement of the objectives addressed by this Directive, including the full closure to fisheries of certain areas, to enable the integrity, structure and functioning of ecosystems to be maintained or restored and, where appropriate, in order to safeguard, inter alia, spawning, nursery and feeding grounds.”¹⁹⁷

Again, by providing for a transfer of decisions on measures to the CFP, the holistic approach is likely to be diminished; the wordings “with a view to supporting the achievement of the objectives addressed by this Directive” is a weak legal shelter when decisions are taken by ministers under pressure from strong fishery interests in member states. It is also a deficiency from the holistic perspective if measures addressed to fishery are not considered simultaneously with the decision on measures addressed to other activities affecting the same marine ecosystem.

Finally, a specific situation should be mentioned in this context. MSD includes a sort of “warning system” which is initially addressed to mem-

¹⁹⁴ As stated *supra* footnote 188, the CFP proposal includes an authorisation for member states to adopt conservation measures in waters under their sovereignty or jurisdiction necessary for complying with obligations laid down in article 13.4 MSD (*see* article 12.1(a)). This right is thus limited to obligations concerning protection of marine areas and when affecting other member states, measures must be adopted by the Commission.

¹⁹⁵ *Supra*, part 2.2.4.

¹⁹⁶ *Supra*, part 2.2.3.

¹⁹⁷ MSD, preamble, item 39.

ber states in case of an “issue which has impact on the environmental status of its marine waters and ... which is linked to another Community policy”, e.g. the CFP. This system should apply if a marine ecosystem is negatively affected by overfishing. If so, the member states “shall make appropriate recommendations to the Commission and the Council for measures” related to the problem. The Commission shall “reflect the recommendations when presenting related proposals to the European Parliament and to the Council”.¹⁹⁸ Possibly, this alert system could lead to e.g. closure of an area to fishery, or to further restrictions on vessels, fishing gears etc. However, there is obviously considerable discretion for the Commission when deciding what to do with a recommendation from a member state, and there is of course no guarantee that a proposal from the Commission would be approved by the Council and the Parliament.

4 Concluding Remarks

This article formulates two research questions, both grounded in the assumptions that fish species are important components of a marine ecosystem and that fishing activities affect and are affected by this system. The first question is *how current knowledge on fish fauna and fishing activities are included in the MSD and WFD adaptive planning*. The MSD covers all EU marine waters and is relatively diverse and detailed as regards what information on fish fauna and impacts from fishing activities that is relevant for the preparation of marine strategies. However, the MSD provides for considerable discretion for member states to decide what to include during the preparation of marine strategies. The risk is therefore that important scientific knowledge on fish fauna and fishing activities is disregarded. This has specific implications for coastal water as the WFD, although applicable parallel to the MSD, does not require fish species to be considered as a biological quality element in coastal waters (in contrast to inland waters). It is therefore quite possible that a member state’s adaptive planning of coastal waters completely ignores fish fauna. Furthermore, none of the directives requires member states to address fishing activities in the programmes of measures and it is not even possible for a member state to impose specific fishery conservation measures according to the MSD in coastal waters, if these are already addressed by

¹⁹⁸ MSD, article 15.1-2. See also the similar MSD article 13.5.

a CFP regulation. All these shortcomings counteract a holistic adaptive planning of marine waters.

The second research question is *how the MSD and WFD adaptive planning impacts decisions according to the CFP regulation*, concerning TACs and other measures. As explained in part 3.4, there are no clear obligations in the 2002 CFP regulation or in the CFP proposal 2013 to consider specific adaptive planning stages conducted under the WFD and MSD. In sum, despite a documented clear political ambition to integrate the MSD and WFD with the CFP regulation, reflected in legal and policy documents in general terms, integration has not effectively been realised in the legal instruments. The recently adopted CFP proposal 2013 entails no change in this respect.

Although the CFP proposal 2013 itself is based upon an ecosystem approach and introduces new instruments – including MSY, multi-annual planning and the discard ban – that in practice should have a positive impact on marine ecosystems, the point of departure for considerations according to the regulation is *fishing activities* and primarily the impacts on *fish stocks*. The WFD and MSD adaptive planning cover in principle all kinds of activities and impacts on different organisms. Results from this holistic ecosystem planning should ideally *preside* over the narrower decision-making according to the CFP regulation. However, as just explained EU has not constructed such a legal situation. This deficiency is especially evident where particular fish and fishery aspects are excluded in the MSD adaptive planning because of a prior CFP regulation and also where member states prefer to exclude fishery from MSD programmes of measures and instead include these considerations under CFP.

There is of course no legal obstacle to observe the results of the WFD and MSD adaptive planning in the decision-making according to the CFP regulation. However, due to the political influence in the Council's decisions according to the CFP regulation, discretion and voluntariness should be replaced by clear legal obligations in order to ensure integration with the WFD and MSD and thereby more effectively implement the ecosystem approach.

Furthermore, although a CFP regulation preside over the MSD in so far as particular environmental aspects in coastal waters are regulated in the CFP regulation, CFP regulations do not *generally* exclude the application of the WFD and the MSD in relation to fishery. Specific conservation measures affecting fisheries in a water area may be needed to achieve good ecological water status (WFD) or good environmental status

(MSD), and such measures should apply although TACs and quotas are determined according to the CFP. A member state ignoring to take such measures could therefore at least in theory be subject to an infringement case related to the WFD or MSD. However, as neither the WFD nor the MSD obliges member states to address fishing activities in programmes of measures, the probability of such an infringement proceeding being brought seems low.

Finally, this article is based upon the theoretical standpoint developed by Winter and Westerlund, amongst others, which states that that economic and social sustainability necessitate unconditional respect for basic ecological preconditions. This respect is not ensured because of the loopholes and discretion in the provisions of the WFD, MSD and CFP regulations. EU law today does therefore not clearly hinder on-going unsustainable fishery in EU marine regions, causing damage, possibly irreparable, to the marine ecosystems. On the contrary, it is a clear drawback that the CFP proposal 2013 has excluded the definition of “sustainable exploitation” formulated in the CFP regulation 2002 according to which an exploitation is sustainable only if “future fish stocks will not be prejudiced” and provided the exploitation does “not have a negative impact on the marine eco-systems”. The removal of the definition is surprising with regard to the actual fishery situation and the political declarations in connection with the CFP reform.

Annex

Descriptors, criteria and indicators for environmental status assessment with relevance for fishing activities (see further *Commission Decision of the 1 st of September 2010 on criteria and methodological standards for good environmental status in marine waters (2010/477/EU)*).

Descriptors	Criteria	Indicators
(1) Biological diversity is maintained and the quality and occurrence of habitats and the distribution and abundance of species are in line with prevailing physiographic, geographic and climatic conditions	<p>(1.1) Species distribution</p> <p>(1.2) Population size</p> <p>(1.3) Population condition</p> <p>(1.7) Ecosystem structure</p>	<p>(1.1.1) Distributional range</p> <p>(1.1.2) Distributional pattern within the range, where appropriate</p> <p>(1.1.3) Area covered by the species, as appropriate (for sessile/benthic species)</p> <p>(1.2.1) Population abundance and/or biomass, as appropriate</p> <p>(1.3.1) Population demographic characteristics (e.g. body size, age structure etc.)</p> <p>(1.3.2) Population genetic structure, where appropriate</p> <p>(1.7.1) Composition and relative proportions of ecosystem components (habitats, species)</p>
(3) Populations of exploited fish and shellfish are within safe biological limits, exhibiting a population age and size distribution indicative of a healthy stock	<p>(3.1) Level or pressure of fisheries</p> <p>(3.2) Reproductive capacity of the stock</p> <p>(3.3) Population age and size distribution</p>	<p>(3.1.1) Fishing mortality (F)</p> <p>(3.1.2) The ratio between catch and biomass indices (catch/biomass)</p> <p>(3.2.1) Spawning stock biomass (SSB)</p> <p>(3.2.2) Biomass indices</p> <p>(3.3.1) Proportion of fish larger than mean size of the first sexual maturation</p> <p>(3.3.2) Mean maximum length across all species found in research vessels surveys</p> <p>(3.3.3) 95 %-percentile of fish length distribution observed in research vessels surveys</p> <p>(3.3.4) Size at first sexual maturation</p>

Descriptors	Criteria	Indicators
(4) All elements of the marine food webs occur at normal abundance and diversity and levels capable of ensuring the long-term abundance of the species	(4.1) Productivity (production per unit biomass) of key species or trophic groups (4.2) Proportion of selected species at the top of the food webs (4.3) Abundance/distribution key trophic groups/species	(4.1.1) Performance of key predator species using their production per unit biomass (productivity) (4.2.1) Large fish (by weight) (4.3.1) Abundance trends of functionally important selected groups/species
(6) Sea-floor integrity is at a level that ensures that the structure and functions of the ecosystems are safeguarded and benthic ecosystems, in particular, are not adversely affected	(6.1) Physical damage, having regard to substrate characteristics (6.2) Condition of benthic community	(6.1.1) Type, abundance, biomass and areal extent of relevant biogenic substrate (6.1.2) Extent of the seabed significantly affected by human activities for the different substrate types (6.2.1) Presence of particularly sensitive and/or tolerant species (6.2.2) Multi-metric indexes assessing benthic community condition and functionality (6.2.3) Proportion of biomass or number of individuals in the macrobenthos above some specified length/size (6.2.4) Parameters describing the characteristics of the size spectrum of the benthic community

