Marine Habitat Protection in Sea Areas under the Jurisdiction of a Coastal Member State of the European Union: The Case of Deep-Water Coral Conservation in Ireland

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ABSTRACT

This article proposes a legal framework for the conservation of deep-water coral in the sea area under the coastal state jurisdiction of Ireland. Two potential risks from human activities to the conservation of deep-water coral are considered. These are commercial fishing activity and the exploration and exploitation activities of the offshore oil and gas industry. The article reviews the relevant provisions of the Law of the Sea Convention (LOS) as they apply to Ireland and mentions several international legal instruments and initiatives that may influence the shape of an effective conservation and management regime. The potential application of European environmental law (the Habitats Directive) to protect deep-water coral in the maritime areas beyond the territorial sea and the interaction between European environmental law and the European common fisheries policy are discussed. This article concludes by suggesting a number of actions that could be taken at European and at coastal state levels to protect the unique ecosystems associated with deep-water coral.

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Introduction

The failure of the international legal order to protect marine bio-diversity has been apparent to scientific and legal experts for some time. While several pragmatic initiatives have been taken in the United States and Norway to protect the marine environment, the European Union has lagged some distance behind and is currently tasked with reconciling diverse legal instruments, many of which have been drafted from a terrestrial perspective, with the pressing need to protect vulnerable marine ecosystems from the adverse impact of commercial fishing operations as well as from the development activities of the offshore oil and gas industry. A useful paradigm that illustrates the complexity of the European approach to the marine environment and the legal difficulties in providing specific marine habitat protection in the Member States is the case of deep-water coral conservation in the sea areas over which Ireland exercises sovereign rights.

Deep-water corals are a new discovery in the sea area west of Ireland. There are no legal safeguards in place to protect the structural integrity and biodiversity associated with the reefs from human activities. This article reviews the options available under existing management and legislative regimes at a national and European level. At the outset it should be emphasised that municipal law in Ireland does not provide the legal framework for the establishment of marine protected areas (MPAs) *sensus strictu* either within or beyond national jurisdiction. The absence of MPAs and the fact that Ireland is a

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1 See, for example, the United States Executive Order for Marine Protected Areas, 26 May 2000, which aims to protect natural and cultural resources within the marine environment. Norway has adopted conservation measures for the protection of the Sula Reef in its EEZ by utilising the Norwegian EEZ Act in conjunction with the Salt Water Fisheries Act. The Sula Reef is one of the world’s largest known cold-water coral reef complexes and has been closed to bottom trawling since 1999. In 2000 an additional area, north of Haltenbanken, was also closed to this type of fishing gear. The prohibition extends to the utilisation, by Norwegian vessels and vessels that fly foreign flags, of fishing gears that are dragged and may come in contact with the sea floor as well as the intentional destruction of coral reefs in the Norwegian EEZ. See [http://www.eu-seased.net/seabed/issue1](http://www.eu-seased.net/seabed/issue1).


3 Ireland has, however, declared a whale and dolphin sanctuary for all sea areas under Irish jurisdiction. One commentator has argued that the legal effect of this is only symbolic, see C. Symmons, *Ireland and the Law of the Sea* (Dublin, Round Hall/Sweet and Maxwell, 2nd ed., 2000), pp. 270–277. It should also be pointed out that the proposed course of action advocated in this article to protect deep-water corals does not preclude the establishment by Ireland of MPAs in the sea areas under national maritime jurisdiction in accordance with the relevant provisions of the LOSC at some future date. On the protection of special areas in the marine environment, see R.R. Churchill and A.V. Lowe, *The Law of the Sea* (Manchester, Manchester University Press, 3rd ed., 1999), pp. 392–395. For a discussion of the application of MPAs on the high seas, see R. Warner, “Marine protected areas beyond national jurisdiction – existing legal principles and a future international law framework”, paper presented at the Expert Workshop on Managing Risks to Biodiversity and the Environment on High Seas, including
Member State of the European Union means that several important issues pertaining to the scope of application of international law, European law and municipal law have to be kept in context when reviewing potential conservation measures.

Deep-water Coral

Deep-water coral is found along the European continental margin at depths down to 1,100 metres. The marine scientific community has been aware of the existence of the corals since the last century. The extent and importance of the corals to the deep-water biotope has only become apparent with recent advances in sonar and sea-bed mapping technology. Three significant areas for corals have been identified in the sea area outside the territorial sea of Ireland but within the 200-mile exclusive fishery limits of the state (see Map 1). The corals are reef-forming structures that support a rich and diverse fauna that rivals those found in tropical waters. Corals have been discovered near the summits of enigmatic underwater hills (up to 300m high), called carbonated mounds. The principal reef-forming coral species found in the north-east Atlantic are *Lophelia pertusa* and *Madrepora oculata* and the coral matrix is estimated to be at least 4,550 years old. The bio-diversity associated with the corals is extraordinary both in terms of abundance and diversity with over 800 recorded species re-occurring in the sea areas associated with the coral reefs. Associated species include populations of commercially exploited fish such as redfish, saithe, ling, blueling, tusk and monkfish. Deep-water corals form an ecosystem where diverse marine life flourishes. Attached to the corals are a range of animals including sponges, tools such as MPAs, scientific requirements and legal aspects, Federal Agency for Nature Conservation, Isle of Vilm, Germany, February 2001. For a review of the Vilm Workshop see Kristina Gjerde, “High Seas Marine Protected Areas”, (2001) 16 International Journal of Marine and Coastal Law 515–528. For the application of MPAs in the Netherlands, see H.M. Dotinga, E.J. Molenaar and C. Backes, “Beschermd Gebieden in de Nederlandse Exclusieve Economische Zone” (Protected Areas in the Netherlands Exclusive Economic Zone) in P.P.J. Driessen, L.M. Michiels and E.J. Molenaar (eds.), Duurzaam Ruimtegebruik. Opstellen vanuit Juridisch en Bestuurswetenschappelijk Perspectief (Sustainable Use of Space. Essays from a Legal and Policy Science Perspective) (in press). See also T.S. Agardy, Marine Protected Areas and Ocean Conservation (Environmental Intelligence Unit, Academic Press, 1997). For the application of MPAs to the high seas, see Gjerde above, and A. C. de Fontaubert, “Legal and political considerations” in WWF/IUCN/WCPA (eds.), The status of natural resources on the high-seas (WWF/IUCN, Gland, Switzerland, 2001). For a practical guide to the utility of applying MPAs to the marine environment, see K.H. Brink, E. Houde, Marine Protected Areas: Tools for Sustaining Ocean Ecosystems (United States National Research Council, National Academic Press, 2001).


bryozoans and hydroids. It is also believed that the corals act as a sanctuary from predators for smaller fish species and other animals that are dependant on waterborne food (referred to as “suspension feeders”). Scientific studies indicate that corals grow at about 6–20 mm per year and reefs are slow to recover from damage by human activity.6

The Risk from Human Activities to Deep-water Coral Ecosystems

The first step towards conservation of deep-water coral ecosystems is to identify potential risks to the sustainability of the coral ecosystems from human activities. There is considerable data available on the level of fishing activity and hydrocarbon exploration in the sea areas over which Ireland exercises sovereign rights. Recent surveillance data from the sea fisheries enforcement agencies in

Ireland indicates that a variety of fishing vessels operate in the same areas associated with the reefs. Vessel types include trawlers, long-line vessels and vessels deploying passive gear such as fixed gill nets. Fishing vessels do not harvest coral for commercial purposes but adversely impact upon the structural integrity of the coral reefs by utilising bottom trawls and other ground gear to catch deep-water species in reef areas. There is also a danger to the biodiversity associated with the reefs as a result of “ghost fishing” by lost or discarded fixed nets and long-lines. The damage to corals by fishing activity in waters under Irish jurisdiction has not been quantified in any great detail, but there is evidence from other coastal states that destructive fishing practices may damage coral reefs and that management measures are required to ensure conservation.7

The existence of deep-water coral may be linked to the seepage of methane and other gases from mineral reserves beneath the sea-bed.8 Significantly, the Atlantic margin represents a new frontier for the hydrocarbon industry with the depletion of resources in the North Sea and with advances in deep sea-bed drilling and hydrocarbon recovery technology. Gas reserves have been discovered in the Corrib gas field 55 miles west of Ireland, with production due to commence on completion of onshore facilities and a satisfactory outcome to the environmental impact assessment process. The Corrib gas field is not located in the vicinity of coral reefs. However, the Department of Marine and Natural Resources in Ireland which is responsible for offshore hydrocarbon development has in the past issued exploration licences for areas adjacent to the coral reefs. Exploration activities are on-going and may impact on the marine ecosystem as a result of the test drilling of the sea-bed, the construction of offshore platforms, as well as the laying of pipelines and other sea-bed infrastructure to bring the resources ashore. The environmental impact on deep-water coral will be dependent upon the location of the production platforms and the routes followed by the pipelines. Accidental discharges from the platforms also present a threat and experience in the United Kingdom suggests that the full effects of offshore oil and gas rigs on corals are not fully known.9

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7 See J. Hall-Spencer, V. Allain and J.H. Fossa, “Trawling damage to Northeast Atlantic ancient coral reefs”, (2002) Proceedings (The Royal Society). In the United Kingdom, it is reported that there is damage by fishing vessels to fields of mounds of Lophelia pertusa in the sea area north-west of Cape Wrath in Scotland, see www.theherald.co.uk/news/archive/3-10-19101-0-44-20.html. Examination of sonar records on another scientific research programme in the United Kingdom demonstrated that bottom trawling is a potentially destructive agent of Lophelia pertusa; see D. Long, “Mapping coral distribution”. Report on Managing Impacts on the Marine Environment (April, 2000), http://www.marinetech.co.uk/projects/MIME.htm. The Canadian Ocean Habitats Protection Society has also reported damage to deep-water coral in the Georges Bank fishery in North America, see http://cohs.atlantisforce.org.


The coral reefs are not located near major shipping routes and do not face a threat from vessels anchoring because of the depth of water (600–1,100 metres), nor is there a threat from eco-tourism because of the inclement nature of the north-east Atlantic and the distance of the reefs from the coast (over 50 nautical miles). However, coral reefs, similar to other marine ecosystems, face a threat from bioprospection, pollution from vessel and land-based sources, and climate change, as well as ozone depletion. Little research has been undertaken on the impact of these threats to the biodiversity and sustainability of deep-water coral in Ireland. It is submitted, however, that the two most imminent risks to the conservation of deep-water coral are commercial fishing activity and the exploration and exploitation activities of the hydrocarbon industries. Conservation action to manage these risks needs to be taken by identifying both the appropriate legal instruments and management scheme to regulate these sector activities. The framework for legislative action is thus multifaceted and embraces international law, European law and the law of the coastal state.

The Legal Framework for Conservation Measures

International Law of the Sea

Ireland, the Member States of European Community (EC) and indeed the EC itself are parties to the LOSC. The LOSC provides for three important jurisdictional zones: the territorial sea, the exclusive economic zone (EEZ) and the continental shelf.

In accordance with the LOSC, the sovereignty of the coastal state extends beyond its land territory and internal waters to an adjacent belt of sea, described as the territorial sea. This sovereignty extends to the air space over the territorial sea as well as the sea-bed and subsoil. Ireland has a territorial sea of 12 nautical miles and exercises jurisdiction in this area in accordance with the rules of the LOSC and the other rules in international law.

In common with other Member States of the EC, Ireland extended its fishery limits to 200 miles in 1976. While Ireland has not declared an EEZ, it has applied the fisheries provisions in the LOSC dealing with the EEZ to the area that is legally defined in Irish municipal legislation as being within the 200-mile

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10 Ireland deposited its formal instrument of ratification of LOSC on 21 June 1996. The EC deposited its instrument of formal confirmation, as provided for in Art. 3 of Annex IX of the Convention, on 1 April 1998. All the litoral Member States of the European Union, other than Denmark, are contracting parties of the LOSC. Denmark signed but to date has not ratified the LOSC. It is bound however by those provisions in the LOSC which are considered to be customary international law.

11 Art. 2(1), LOSC.


13 Maritime Jurisdiction Act (Exclusive Fishery Limits) Order 1976.
exclusive fishery limits of the state.\textsuperscript{14} This zone is referred to as the exclusive fishery zone (EFZ).

The LOSC defines the EEZ as:

“an area beyond and adjacent to the territorial sea, subject to the specific legal regime . . . under which the rights and jurisdiction of the coastal state and the rights and freedoms of other states are governed by relevant conventions”\textsuperscript{15}

Within this area, the coastal state has:

“sovereign rights for the purpose of exploring and exploiting, conserving and managing the natural resources, whether living or non-living, of the waters superjacent to the sea-bed and of the sea-bed and its subsoil, and with regard to other activities for the economic exploitation and exploration of the zone”\textsuperscript{16}

Concurrent with sovereign rights in relation to the EEZ/EFZ, coastal states also have responsibilities in relation to the protection of the marine environment.\textsuperscript{17} Specifically, the sovereign rights of the coastal state pursuant to the LOSC to “explore, exploit, conserve and manage” the natural resources, whether living or non-living, within its EEZ/EFZ, is balanced by the duty to take conservation measures in relation to “living resources”,\textsuperscript{18} coupled with the more general

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\textsuperscript{14} The rights under the EEZ regime differ from those under that of the continental shelf regime on which Ireland has specific legislation. In the EFZ Ireland has sovereign rights in relation to the exploring, exploiting, conserving and managing living resources, the non-living resources are covered by the regime applicable to the continental shelf. Ireland’s failure to declare an EEZ may have been motivated by uncertainty regarding the status of the EEZ regime in customary international law prior to the coming into force of the LOSC. It has been argued that the sovereign rights and jurisdiction under customary international law for states that have not declared an EEZ are the same as for those parties that have declared an EEZ in so far as the International Court of Justice has stated that the concept of the EEZ “may be regarded as part of modern international law”, \textit{Tunisia-Libya Continental Shelf case}, (1982) IJC Rep 18, p. 74, para. 100. A view subsequently supported in the \textit{Libya-Malta Continental Shelf case}, (1985) IJC Rep 13, p. 33, para. 34. See D. Owen, “The application of the Wild Birds Directive beyond the territorial sea of European Community Member States”, (2001) 13 \textit{Journal of Environmental Law} 39, 58–59. For the Irish viewpoint on the status and content of the EEZ regime, see C. Symons, \textit{Ireland and the Law of the Sea}, pp. 169–172, \textit{op. cit.}, note 3.

\textsuperscript{15} Art. 55, LOSC.

\textsuperscript{16} Art. 56 (1), LOSC.

\textsuperscript{17} Art. 193, LOSC.

\textsuperscript{18} Art. 61, LOSC. “Living resources” may include non-commercially exploited resources such as deep-water coral. This point is not free of uncertainty or controversy. For a discussion of the meaning of the LOSC terms “natural resources” and “living resources”, see D. Owen, “The application of the Wild Birds Directive beyond the territorial sea of European Community Member States”, (2001) 13 \textit{Journal of Environmental Law} 39, 49–56. The author argues that the terms “living resources” and “natural resources” are equivocal. Strong arguments may be advanced for both an interpretation which limits the terms to those species of marine fauna and flora which are (commercially) exploited on the one hand, and on the other hand for a broader meaning encompassing species of fauna and flora which are not exploited.
environmental protection obligation to protect the marine environment and to exploit natural resources pursuant to environmental policies. As noted by the leading authority on law of the sea in Ireland, the cumulative effect of these provisions is that the coastal state has LOSC-based potential (if not presently actual) jurisdiction in the EEZ in relation to nature conservation, including non-commercial animal and plant species jurisdiction therein.

One other important concept in the LOSC that is relevant to our review is the continental shelf. Ireland signed but did not ratify the 1958 Convention on the Continental Shelf. It is however bound by the continental shelf provision (Part VI) of the LOSC since ratification of the latter in 1996. The continental shelf of the coastal state comprises:

“the sea-bed and subsoil of the submarine areas that extend beyond its territorial sea throughout the natural prolongation of its land territory to the outer edge of the continental margin, or to a distance of 200 nautical miles from the baselines from which the breadth of the territorial sea is measured where the outer edge of the continental margin does not extend up to that distance”.

Ireland, as a coastal state, exercises over the continental shelf “sovereign rights for the purpose of exploring it and exploiting its natural resources”. The sovereign rights attaching to the coastal state cover all the resources of the shelf, that is:

“the mineral and other non-living resources of the sea-bed and subsoil together with living organisms belonging to sedentary species, that is to say, organisms which, at the harvestable stage, either are immobile on or under the sea-bed or are unable to move except in constant physical contact with the sea-bed or the subsoil”.

While Ireland did not ratify the 1958 Convention it nevertheless enacted specific legislation pertaining to the continental shelf in 1968. This legislation states:

“Any rights of the State outside the territorial waters over the sea-bed and subsoil for the purpose of exploring the sea-bed and exploiting their natural resources are ... hereby vested in the Minister and shall be exercisable by the Minister.”

In practice the sea-bed rights on the continental shelf become exercisable when

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19 Arts. 192 and 193, LOSC.
21 Art. 76(1), LOSC.
22 Art. 77(1), LOSC.
23 Art. 77(4), LOSC; Continental Shelf Convention, Art. 2(4).
24 Continental Shelf Act 1968, s. 2.
the Government designates a particular area by order. In the period between 1968 and ratification of the LOSC in 1996, Ireland designated 652,000 square kilometres of shelf, and at the time of writing has an additional amount of seabed still to designate. All the known areas of corals discovered to date are located in areas designated as part of the Irish continental shelf.

An issue of fundamental importance in relation to deep-water coral conservation is that the general conservation duties under the continental shelf regime are much more limited as compared to the EEZ/EFZ regime where there is an explicit duty under the LOSC to conserve and manage natural resources. There is no such duty under the continental shelf regime. Furthermore, the exercise of sovereignty by the coastal state for the purpose of exploring and exploiting the resources of the continental shelf is distinguished from the regime that applies to the EEZ in so far as the former applies only to “mineral and other non-living resources of the sea-bed and subsoil together with living organisms belonging to sedentary species . . .” (emphasis added). The only living component of “natural resources” which fall within the continental shelf regime are sedentary species, of which examples include oysters, clams and abalone. Deep-water coral reefs are comprised of both living and non-living resources. The physical structure of a reef is composed of a base of dead coral skeletons in various states of decomposition to which living corals are attached. Cycles of growth and mortality lead to increases in the sizes of the reef over time and variations in what may constitute living or non-living resources under the continental shelf regime. Deep-water coral straddle the distinction made in the LOSC between living and non-living resources. The limitation regarding both the subject matter of the continental shelf regime (the ratation materialis), as well as the distinction between the EEZ/EFZ and the continental shelf regimes in terms of conservation, may curtail the options available to Ireland to protect deep-water corals on the outer continental shelf beyond the outer limits of the EFZ and is discussed below.

It is clear nonetheless that the LOSC vests Ireland with sovereign rights and responsibilities in relation to the conservation and management of deep-water coral which occurs on the sea-bed of the EFZ. It needs to be emphasised, however, that the exercising of these rights and responsibilities must accord with the principles of the Convention and the rules of international law, including

25 The current areas designated extend beyond the maximum 350-nautical miles limits or 100 nautical miles from the 2,500 metre isobath provided for in Art. 76, LOSC. For a discussion of the issues pertaining to the continental shelf and delimitation, see C. Symmons, Ireland and the Law of the Sea, Chapters 5 and 7, op. cit., note 3. It should also be pointed out that the term “designate” is predominantly relevant for Irish municipal law, but of course under international law such rights exist ipso facto. Art. 77(3), LOSC.
those in Part XII of the LOSC. This sets out detailed provisions and obligations on States for the protection and preservation of the marine environment. In particular, the sovereign right of states to exploit natural resources is limited by the duty to protect and preserve the marine environment.28 Measures taken under Part XII of the LOSC “shall include those necessary to protect and preserve rare and fragile ecosystems as well as the habitat of depleted, threatened or endangered species and other forms of marine life”.29

Other International Legal Instruments and Initiatives

The LOSC provides the obvious jurisdictional framework for coastal state action to protect deep-water coral. It is however complemented by several other international conventions and initiatives which aim to protect wildlife and habitats. In this regard it is important to point out that European law to protect the marine environment does not evolve in a vacuum and is heavily influenced by the legislative norms in international agreements and conventions that aim to protect and preserve the natural environment. It is not possible to canvas the entire legal landscape to identify every instrument that binds the Community to protect the marine environment. However, the general thrust of several international conventions and indeed non-binding legal instruments is to place an express obligation on the EC and the Member States to use marine resources in a sustainable manner and to preserve the structural and functional integrity of the marine ecosystem(s).30

Arguably, the most important convention that has influenced the application of EC law to the environment is the Biodiversity Convention of 1992 (the Rio Convention).31 The Convention, requires parties to develop, inter alia, national strategies for the conservation and sustainable use of biological diversity which

28 Art. 193, LOSC.
29 Art. 194(5), LOSC.
30 There are several conventions which, while not directly aimed at protecting the marine environment, have influenced the development of EC law to protect and preserve natural habits. In this regard, particular reference may be made to the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES) which prohibits, inter alia, trade in corals. The EC has adopted regulations which apply CITES but has not received sufficient number of ratification from contracting parties to become party to the Convention. Ireland signed CITES on 1 November 1974 but has only recently committed itself to ratification, see press statement, Ireland, Department of Arts, Heritage, Gaeltacht and the Islands, 19 August 2001. The Convention on the Conservation of European Wildlife and Natural Habitats of 1979 (the Berne Convention) has also had a major influence on the development of Community law on the protection of ecosystems and biological diversity. The latter is a Council of Europe Convention which aims to safeguard endangered habitats and species throughout Europe. For the EC perspective on the obligations in this convention, see Council Decision 82/72/EEC of 3 December 1981, OJ No. L38/1, 10.2.82. It may also be relevant to point out that the EC and the Member States have signed the Aarhus Convention on access to information, public participation in decision-making and access to justice in environmental matters.
31 The EC is party to the Rio Convention which entered into force on 29 December 1993. Ireland signed the Convention on 13 June 1992 and ratified on 22 March 1996.
should include, as appropriate, the establishment of protected areas, the protection of ecosystems and habitats, and the protection of threatened species. At the second Conference of the Parties to the Convention in 1995 it was agreed that marine biodiversity should be a priority area for action. The Jakarta Mandate on Marine and Coastal Biological Diversity was subsequently adopted and this sets out a strategy for marine biodiversity with special emphasis on integrated marine and coastal area management and the precautionary approach.32

Another Convention influencing the development of EC law to protect the marine environment is the Convention for the Protection of the Marine Environment of the North-East Atlantic (OSPAR Convention).33 Among the objectives of this Convention is the provision of a legal framework for concerted action at all levels to manage human activities in such a manner that the marine ecosystem will continue to sustain the legitimate uses of the sea and meet the needs of present and future generations.34 While the OSPAR Convention is ostensibly focused on marine pollution, it contains important provisions in Annex V aimed at the protection and conservation of the ecosystems and biological diversity of the maritime area. Both Article 4 of Annex V and the penultimate recital of the Convention stipulate that measures pertaining to the management of fisheries shall not be adopted under the Convention but shall be referred to the attention of the authority or international body competent for such issues. Thus, questions pertaining to the management of fisheries impinging on fishing vessels flying the flag of Member States of the EC must be taken under the instruments constituting the common fisheries policy. This provision in effect means that measures to control the activities of fishing vessels that adversely impact on deep-water coral can only be taken through the medium of EC fishery law. There is little scope under the OSPAR Convention for a coastal Member State of the European Union to adopt unilateral national measures to protect deep-water coral and this is a direct consequence of the exclusive competence that the Member States have vested in the European institutions to regulate and manage sea fisheries.

Other than treaty law, there are several international initiatives that are specifically aimed at protecting the marine environment. These instruments are not

33 The OSPAR Convention has been signed and ratified by Ireland and came into force in 1998. OSPAR refers to Oslo and Paris, the cities in which previous conventions to the 1992 Convention were adopted. The Convention maritime areas are those parts of the Atlantic and Arctic Oceans and their dependent seas defined in Article 1. Within that particular area the Convention applies to the internal waters and the territorial seas of the Contracting Parties, the sea beyond and adjacent to the territorial sea under the jurisdiction of the coastal state to the extent recognised by international law, and the high seas, including the sea of all those waters and its sub-soil.
34 Third recital of the Convention.
legally binding and are sometimes referred to as soft law. An example of such an initiative that is relevant to the conservation programme for the protection of deep-water coral is the FAO Code of Conduct for Responsible Fisheries. The Code sets out principles and international standards of behaviour for responsible practices with a view to ensuring the effective conservation, management and development of living aquatic resources with due respect for the ecosystem and biodiversity. While the Code is voluntary, it nevertheless provides a blueprint regarding the general principles that need to be adopted in managing the marine environment.

In particular, the Code places an express obligation on States and users of living aquatic resources to conserve aquatic ecosystems. The right to fish carries with it the obligation to do so in a responsible manner so as to ensure effective conservation and management of the living aquatic resources. Moreover, management measures should not only ensure the conservation of target species but also of species in associated ecosystems. Management decisions for fisheries should also be based on the best scientific evidence available, taking into account traditional knowledge of the resources and their habitat, as well as the relevant environmental, economic and social factors. Furthermore, the Code places an express obligation on States and regional fisheries management organisations to apply a precautionary approach to the conservation, management and exploitation of living aquatic resources in order to protect them and to preserve the aquatic environment. In this regard, the absence of adequate scientific information should not be used as a reason for postponing or failing to take measures to conserve target species, associated or dependent species and non-target species and their environment. One other provision in the Code of Conduct for Responsible Fisheries that is particularly pertinent to the establishment of a deep-water coral conservation programme is the recommendation for all parties to develop and apply selective and environmentally safe fishing gear and practices in order to maintain biodiversity. Moreover, in cases where proper selective and environmentally safe fishing gear and practices exist, they should be recognised and accorded a priority in establishing conservation and management measures for fisheries.

European Law

The LOSC vests coastal states with certain sovereign rights and responsibilities in relation to the EEZ/EFZ and the continental shelf. Ireland in common with other

37 Id., Art. 6.4.
38 Id., Art. 6.5.
39 Id., Art. 6.6.
40 Ibid.
Member States of the EC has ceded a degree of legislative and treaty-making competence to the Community in relation to certain matters regulated by the LOSC. The EC, for example, has almost exclusive competence (both legislative and treaty-making) for the conservation and management of sea fishing resources and has limited treaty-making competence in the prevention of marine pollution. In relation to the latter, the Community has competence only to the extent that provisions of the LOSC or legal instrument adopted in implementation thereof affect common rules established by the Community.\textsuperscript{41} To understand the potential application of the common rules which have been adopted at EC level, such as the Habitats Directive to protect deep-water coral, it is first necessary to mention some important EC Treaty provisions which underpin Community legislative interventions to regulate the marine environment.

\textit{The EC Treaty}

The EC is committed to the preservation, protection and improvement of the quality of the environment. This commitment has a solid legal basis in the EC Treaty, which states:

\begin{quote}
"Environmental protection requirements must be integrated into the definition and implementation of the Community policies and activities \ldots{} in particular with a view to promoting sustainable development."\textsuperscript{42}
\end{quote}

This EC Treaty obligation to integrate environmental considerations into the elaboration and implementation of Community policies is based on the conceptual premise that environmental policy requires specific measures in sector policies such as fisheries, transport and energy, in order to achieve the global objectives of environmental protection and sustainable development.

The EC Treaty states in the substantive provisions dealing with the environment that:

\begin{quote}
"Community policies on the environment shall aim at a high level of protection taking into account the diversity of the situation in the various regions of the Community. It shall be based on the precautionary principle and on the principles that preventative action should be taken, that environmental damage should as a priority be rectified at source and that the polluter should pay."\textsuperscript{43}
\end{quote}

While the principles enunciated in this EC Treaty provision are generally considered to lack legal clarity and are seen as statements of political intent,\textsuperscript{44}

\textsuperscript{41} The formal instrument of confirmation deposited by the EC on the 1 April 1998 lists relevant Community acts governed by the LOSC and the Implementation Agreement. One of those Acts that is on the list pertaining to the LOSC provisions on marine pollution is the Habitats Directive.

\textsuperscript{42} EC Treaty, Art. 6.

\textsuperscript{43} EC Treaty, Art. 174(2).

they do offer useful guidance on the nature of the measures that ought to be taken to protect the marine environment. These measures are examined below.

**EC Habitats Directive**

While the EC Treaty provides a solid legal basis for the regulation of the environment there is nevertheless a very limited range of secondary legal instruments specifically aimed at protecting specific habitats in the marine environment. One legal instrument whose scope of application extends to the marine environment is the Habitats Directive.

The Habitats Directive\(^{45}\) is a sophisticated instrument for the maintenance of biodiversity and contributes to the general objective of sustainable development in EC law. The Habitats Directive seeks to preserve and restore the natural habitats, the wild fauna and flora, by obliging Member States to establish a comprehensive network of special areas of conservation for endangered and vulnerable species and habitats. The nature network established by the Habitats Directive in conjunction with the Birds Directive is known as NATURA 2000 and consists of sites of international importance. Special areas of conservation are generally designated by Member States but there is also provision for EC designation in exceptional circumstances where a site hosts a priority natural habitat type or priority species. The Annexes of the Directive list the broad categories of natural habitat types and the specific animal and plant species of Community interest. The directive incorporates some aspects of the Berne Convention on the Conservation of European Wildlife and Natural Habitats into Community law.

The aim of the Habitats Directive is:

> “to contribute towards ensuring biodiversity through the conservation of natural habitats and of wild fauna and flora in the European territory of the Member States to which the Treaty applies” (emphasis added).\(^{46}\)

The first issue that needs to be addressed is whether the scope of application of the Directive extends beyond the territorial seas of the Member States. A strict construction of Article 2 of the Directive, from the perspective of classical international law, suggests that the instrument is limited in application to the territory of the Member States. The LOSC does not use the term *territory*: it uses the term *sovereignty*.\(^{47}\) In marine areas the territorial sovereignty of the Member States only extends as far as the outer limit of the territorial sea, which in the

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\(^{47}\) Art. 2, LOSC.
North-east Atlantic is 12 nautical miles measured from the baselines of the coastal Member States.\footnote{48}

However, according to the Communication from the Commission (“Fisheries Management and Nature Conservation in the Marine Environment”):\footnote{49}

“The provisions of the Habitats Directive automatically apply to the marine habitats and marine species located in territorial waters (maximum 12 miles). However, if a Member State exerts its sovereign rights in an exclusive economic zone of 200 nautical miles (for example, the granting of an operating licence for a drilling platform), it thereby considers itself competent to enforce national laws in that area, and consequently the Commission considers in this case that the ‘Habitats Directive’ also applies, in that Community legislation is an integral part of national legislation.”

This interpretation is supported by the decision of the High Court in the United Kingdom which concluded that the geographical scope of application of the Habitats Directive is not limited to the territorial sea but “applies to the United Kingdom’s continental shelf and to the superjacent waters up to a limit of 200 nautical miles from the baselines from which the territorial sea is measured”\footnote{50}, Mr. Justice Kay, who delivered the judgment, partly based his decision on the grounds that a Directive which includes in its aims the protection of \textit{Lophelia pertusa} and cetaceans will only achieve those aims, on a purposive construction, if it extends beyond the territorial waters. Interestingly, the learned Judge noted:

“Although much of the concern of the Directive and some of its language can be properly described as land based, it also specifically deals with some habitats which are sea based and, to a large extent flourish beyond territorial waters.”

The Judge placed reliance on the wider context of international law to which the United Kingdom and the EC are parties, noting that various treaty obligations impose environmental duties beyond the territorial waters, including the LOSC, the 1992 Rio Convention on Biodiversity, as well as the OSPAR Convention. The decision of the High Court in the United Kingdom is consistent with the findings of the European Court of Justice in several fisheries cases that have held that the scope of Community law extends as far as the rule-making authority remit of Member States under public international law.\footnote{51}

\footnote{48} In this jurisdictional zone the sovereignty of the coastal state is not absolute and is subject to the important international law of right of innocent passage, Arts. 17-26, LOSC. In the Mediterranean Sea, Greece claims a territorial sea of 6 nautical miles, whereas Italy, France and Spain claim 12 nautical miles.


\footnote{50} \textit{The Queen v The Secretary of State for Trade and Industry ex parte Greenpeace Limited}, High Court of Justice Queen’s Bench Division, 5th November 1999. Hereafter referred to as \textit{Greenpeace II}.

\footnote{51} For the European Court of Justice cases, see note 62 below.
The second critical issue that needs to be taken into consideration is the significance of the omission of *Lophelia pertusa* in the Habitats Directive. The list of natural habitat types in Annex I of the Habitats Directive does, however, include the term ‘reefs’. It is thus significant that Mr Justice Kay, on the basis of the published scientific evidence submitted in the case for judicial review, proceeded on the basis that *Lophelia pertusa* is a reef-forming coral. As noted by the Judge, this interpretation of ‘reefs’ accords with the definition in the *Interpretation Manual of European Union Habitats* published by the European Commission.

The decision in the *Greenpeace II* case has major implications for offshore conservation in the United Kingdom. Since the decision in this case, the Department of the Environment, Transport and the Regions in the United Kingdom has undertaken a considerable amount of work to develop mechanisms to protect and manage marine wildlife in sea areas under United Kingdom jurisdiction.52 The United Kingdom environment minister recently announced that the deep-water coral reefs in the Darwin Mounds would be the first marine special area of conservation outside the territorial waters of the United Kingdom.53

*State practice in Member States other than the United Kingdom*

Several Member States of the European Union have taken initial steps to apply the Habitats Directive to protect marine habitats in the sea areas outside the territorial sea where they exercise sovereign rights. The following Table presents an overview of the measures undertaken by the EU Member States other than the UK in establishing NATURA 2000 sites within the framework of the Habitats and Birds Directive in their respective EEZ/EFZs.

From the data displayed in Table 1, it is evident that Denmark and Portugal have announced the designation of special areas of conservation in sea areas outside their territorial seas and within the outer limits of their EEZs. The dilatory progress of Member States in implementing the Habitats Directive outside the territorial sea may be attributed to a number of factors that are peculiar to the marine environment. These include, *inter alia*: the lack of knowledge regarding the nature and extent of habitats in offshore and deep-water areas; difficulties in site selection and delimitation in sea areas outside the territorial sea; the absence of transposition legislation in some Member States for

<table>
<thead>
<tr>
<th>Coastal Member States of the European Union</th>
<th>Belgium</th>
<th>Denmark</th>
<th>Germany</th>
<th>Spain</th>
<th>France</th>
<th>Ireland</th>
<th>Netherlands</th>
<th>Portugal</th>
<th>Finland</th>
<th>Sweden</th>
</tr>
</thead>
<tbody>
<tr>
<td>First legal steps for the realisation of NATURA 2000 inside EEZ or 200-nautical mile zone</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>?</td>
<td>N</td>
<td>?</td>
<td>Y</td>
<td>Y</td>
<td>N</td>
<td>Y</td>
</tr>
<tr>
<td>First scientific steps for the identification of NATURA 2000 inside EEZ or 200-nautical mile zone</td>
<td>?</td>
<td>Y</td>
<td>Y</td>
<td>?</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
</tr>
<tr>
<td>First announcement of NATURA 2000 sites inside EEZ or 200-nautical mile zone</td>
<td>N</td>
<td>Y</td>
<td>N</td>
<td>?</td>
<td>N</td>
<td>N</td>
<td>N</td>
<td>Y</td>
<td>N</td>
<td>N</td>
</tr>
</tbody>
</table>

Legend:  
Y indicates action by Member States;  
? indicates no information on Member State activity;  
N indicates no action by Member States.

This Table is reproduced from data presented at the expert workshop on the application of NATURA 2000 in the marine environment, Isle of Vilm, Germany, 27 June–1 July 2001. It should be noted, however, that Italy, France, Spain and Greece have not declared EEZ/EFZs in the Mediterranean Sea. For this reason, Italy and Greece have been omitted from the Table.

implementing the Directive in the EEZ; as well as inadequate lists of marine species and habitat types in the Directive.54

The slow application of the Directive in the marine environment may be

ameliorated as Member States exchange information and learn from the practical experience of site selection and designation in the United Kingdom, Portugal and Denmark. In this regard, it may be argued that there is sufficient state practice in Member States to support the case for site designation by Ireland to protect deep-water coral.

**Municipal Law in Ireland**

Ireland has responsibility under international law and European law to protect the marine environment. In response to these obligations, Ireland selected 28 coastal and marine sites for protection under the scheme set out in the Habitats Directive. All the sites are located within three nautical miles of the coast and there are no legal indicators from the relevant government department of their intent to apply the Directive outside the territorial sea to protect habitats such as deep-water coral.

Ireland’s recalcitrant response to its environmental responsibilities was compounded by delay between the adoption at EC level of the Habitats Directive in 1992 and the enactment of the European Communities (Natural Habitats) Regulations 1997 that transposes the provisions of the Directive into municipal law. Ireland’s failure to transmit to the European Commission the list of sites for protection (both marine and land) resulted in enforcement proceedings in the European Court of Justice and a ruling that Ireland did not fulfil its obligations under Community law. Further procrastination, or indeed failure to protect deep-water coral under the scheme provided for in the Habitats Directive, may result in the imposition of a fiscal penalty.

There is a persuasive case to support the view that the geographical reach of the Habitats Directive extends beyond Ireland’s territorial sea to all sea areas where Ireland exercises sovereign rights, including the continental shelf and superjacent waters. This interpretation of the application of the Directive is important because marine scientific research to date indicates that deep-water coral only exists in the sea area outside the territorial sea. Any future application of the Habitats Directive to protect deep-water coral will only be of value if this interpretation of the geographical scope of the Directive is accepted.

The Irish legislation (the European Communities (Natural Habitats) Regula-

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57 EC Treaty, Art. 228.
tions 1997), which transposes the Directive into Irish law, offers evidence that it is the intention of the regulatory authority to apply the Habitats Directive up to the outer limits of the 200-nautical mile exclusive fishery zone. This is evident from Part I of the Regulations where one of the definitions in the interpretation section states:

“‘operation and activity’ means any use of –
(a) land (including foreshore and the sea-bed out to the exclusive fishery limits of the State).”

It is thus clearly foreseen that the implementation Regulations will be used for controlling “operations and activities” which impact on any marine special areas of conservation designated in the sea area out to the 200-nautical mile exclusive fishery limits. Furthermore, the Regulations state that “a word or expression that is used in these regulations and is also used in the Habitats Directive shall, unless the contrary intention is expressed, have in these Regulations the meaning it has in the Habitats Directive”. Thus, if the term territory in the Habitats Directive is interpreted as including sea areas under the sovereignty and jurisdiction of the Member States then it may be argued that this interpretation should have the same meaning under the transposition regulations. This interpretation that the provisions relating to special areas of conservation will apply to the marine environment and that implementation of the Directive in Ireland extends to the exclusive fishery limits is supported by a number of specialist commentators.

*The application of the Habitats Directive seaward of the EEZ/EFZ*

The Irish legislation (the European Communities (Natural Habitats) Regulations 1997) only applies to the outer limit of the exclusive fishery zone. Furthermore, as the Greenpeace II case demonstrated in the United Kingdom, the precise geographical scope of the Habitats Directive is not clear from the text of the Directive. This question is of practical significance in so far as the complete range and extent of deep-water coral on the Atlantic margin is not known. Ireland has continental shelf beyond the outer limits of the EEZ/EFZ and future discoveries of deep-water coral may require Ireland to apply the Directive to those areas of the continental shelf over which the state purports to exercise sovereign rights which extend beyond the 200-mile fishery limits.

The authors of this article contend that there is a strong case to support the view that the scope of the Habitats Directive should extend to the outer limits of the continental shelf over which Ireland exercises sovereign rights in accordance with international law. Elements to support this view are first, the geographical extent of the European Communities’ legal competence to adopt measures such

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58 European Communities (Natural Habitats) Regulations 1997, reg. 2(2).
as the Habitats Directive as set out by the EC treaties is not limited to the territories of the Member States but extends to all maritime zones under the jurisdiction or sovereignty of the Member States. The EC Treaty does not contain any provisions that expressly exclude the Irish continental shelf from the scope of application of Community Law. Ireland is responsible for the exercising of sovereign rights over the continental shelf and ipso facto Ireland must be subject to Community law in such areas. Any other construction would make the Irish continental shelf, in Community law terms, a lawless zone. Secondly, there is a considerable body of jurisprudence from the European Court of Justice in the context of the common fisheries policy that supports the view that the scope of Community law (ratione loci) extends to where a Member State exercises functional jurisdiction under public international law. Thirdly, Ireland has transposed into national law other Community laws which impinge on the exercise of sovereign rights in relation to the continental shelf and which regulate activities outside the territorial sea. Fourthly, judicial practice in other Member States indicates a willingness to consider the scope of application of Community legal instruments as extending to the outer continental shelf.

The utility of the Habitats Directive to protect the biodiversity associated with coral reefs beyond the 200-nautical mile EEZ/EFZ is, however, curtailed by the LOSC. As already mentioned, under the continental shelf regime the sovereign rights of the coastal state for the purpose of exploring and exploiting the continental shelf are limited to the mineral and other non-living resources of the sea-bed and subsoil together with living organisms belonging to sedentary species. This means, paradoxically, that the application of the Habitats Directive by the coastal state to protect deep-water coral is limited by the definition of natural resources in the LOSC and will not extend to protect living


61 A point noted by Judge Kay, in the context of the application of the Habitats Directive to the United Kingdom continental shelf, in the Greenpeace II case, op. cit., note 50.


63 See, inter alia, European Communities (Hydrocarbons) Prospection, Exploration and Production Regulations (S.I. 1988 No. 77); Directive 95/21/EC which concerns shipping and working conditions on ships and extends to offshore installations on or over the continental shelf of a Member State.

64 It is not clear from the Greenpeace II case in the United Kingdom whether the scope of application of the Habitats Directive extends beyond 200 miles to areas of the continental shelf over which the United Kingdom claims sovereignty.

65 Art. 77(4), LOSC. See discussion supra.
natural resources such as commercially exploited free-swimming fish species which are associated with the coral reefs.

Putting a Legal and Management Framework in Place for Deep-water Coral

There are a number of actions that may be taken at European and national level to protect the unique ecosystems associated with deep-water coral. As is evident from the discussion above, there is a solid Treaty basis for legislative intervention to protect the natural environment, supported by a range of secondary instruments including environmental directives and fisheries regulations.\(^\text{66}\)

The authors of this article contend that deep-water corals may be protected from human activities if the Member States and European institutions adopt a three-strand approach to the management problem. The first strand is the adoption of a technical conservation measure in the common fisheries policy to regulate fishery activities that have an adverse impact on coral ecosystems. This element will not of course protect deep-water coral from the impact of other sector activities such as the oil and gas industry. The coastal state, through the medium of municipal law, can regulate the latter. To address this issue, the second strand entails the coastal state implementing an ecosystem management approach to the sea areas where deep-water coral exists within national jurisdiction. This requires the designation of areas where there is deep-water coral as special areas of conservation by the coastal state in accordance with the requirements specified in the Habitats Directive. The third strand implies the implementation of a comprehensive enforcement and compliance scheme to ensure that the future legislative regime pertaining to deep-water coral will be properly implemented and will contribute to a sustainable ecosystem. It is now proposed to say a little more about each of the elements in the suggested framework.

*Strand One – Adoption of a technical conservation measure in the common fisheries policy*

The existing common fisheries policy does not have specific measures for the management and conservation of ecosystems in the Atlantic that contain deep-water coral.\(^\text{67}\) There is a valid case for the adoption of a specific technical conservation measure at European level to protect deep-water coral. Technical conservation measures is the term used to denote the series of conservation

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\(^{66}\) The relevant EC Treaty provisions include, *inter alia*: Art. 3(f), which provides a legal basis for the common fisheries policy; Art. 6 which requires the integration of environmental concerns into community policies such as the common fisheries policy; Art. 174 which requires the application of the precautionary principles and preventative measures in the Community’s approach to the environment. An example of the secondary instruments include Council Regulation (EEC) No. 3760/92, 20.12.92, OJ No. L389, 31.12.92, p. 1. Art. 2 states that the common fisheries policy shall take account of the impact of the policy on the marine ecosystem.

\(^{67}\) There are however specific measures for conservation of coral in the Mediterranean Sea, see Council Regulation 1626/94, OJ No. L171, 6.7.94, pp. 1–6.
provisions which regulate the type of fishing gear allowed in a particular fishery as well as the size of marine organisms which may be landed and seasonal/area restrictions for particular fisheries. The proposed measure to protect deep-water coral may entail the prohibition of the utilisation of bottom trawls and perhaps restrictions on the use of long-line and passive gears in coral areas. The impact of mid-water and pelagic trawls on the corals and their associated biodiversity would have to be assessed. The precise range of measures and their geographical scope could be worked out by the Scientific, Technical and Economic Committee for Fisheries that advises the European Commission on the formulation of policy.

There are several advantages in adopting a Community regulation to protect deep-water coral. First, it would resolve competing jurisdiction issues in Community legal instruments in so far as the responsibility on the Member States to protect marine habitats under the LOSC and the Habitats Directive has to be reconciled with the competence of the EC to regulate and manage sea fisheries. Fishing activity within the Irish exclusive fishery limits is governed by the common fisheries policy and Community competence to prescribe conservation measures in this regard is almost exclusive. Ireland, in common with other Member States, retains the right to enforce Community fishery law. Consequently, any conservation regime for deep-water coral that impinges on the activities of fishing vessels (whether they fly the flag of the Member States of the EC or third countries) within the Irish exclusive fishery limits can only be adopted at Community level on the basis of Article 37 of the EC Treaty.

Secondly, within the Community legal order, regulations are directly effective and directly applicable in the Member States. Unless expressly stated otherwise, regulations have the force of law from the date of publication and do not require transposition by the legislatures in the Member States. Regulations provide a uniform standard that applies to all EC vessels that operate in the north-east Atlantic. This is an important element given that the majority of vessels, which operate within the Irish 200-mile exclusive fishery limits, do not fly the flag of the coastal state but sail under the flags of the United Kingdom, France and Spain. The enforcement and compliance of any such technical conservation measure could be linked with the operation of the EC satellite vessel monitoring system.

69 Ibid., pp. 58-65.
70 As noted above, a similar limitation exists in the establishment of MPAs under the OSPAR Convention. There is however limited scope for Ireland to adopt unilateral measures in the absence of Community measures, provided they conform with EC law. Furthermore, Ireland may have exclusive competence in relation to adoption of measures to protect the “non-living” element of coral reefs under the LOSC continental shelf regime. See discussion infra.
71 For a discussion of the operation of this system, see R. Long and P. Curran, Enforcing the Common Fisheries Policy, Chapter 11, op. cit., note 68.
This would allow coastal state enforcement authorities to assess whether fishing vessels are operating in areas with deep-water corals.

The third advantage of this approach is that it integrates environmental principles into the common fisheries policy and establishes environmental protection as a guiding norm for fishery regulation. This approach accords with the strategy proposed by the European Commission in their Communication from the Commission to the Council and the European Parliament, entitled “Elements of a strategy for the integration of environmental protection requirements into the common fisheries policy”.72 It is also consistent with the scheme proposed by the European Commission in their Green Paper on the future direction of the common fisheries policy.73 A fisheries technical conservation measure to protect deep-water coral will demonstrate the commitment of Member States and the European institutions to an ecosystem-based approach to fisheries management as outlined in the recently published Biodiversity Action Plan for Fisheries.74

One other point to support this approach is that there is considerable precedent for EC regulatory intervention through the medium of technical measures to protect the marine environment. Specific examples include: the technical conservation measure which prohibits the use of certain types of towed fishing gear, such as St Andrew’s crosses for harvesting coral in the Mediterranean Sea,75 the prohibition on the use of large-scale driftnets by all EC vessels other than those that operate in the Baltic sea, the Belts and the Sound,76 as well as the active role played by the EC in the dolphin conservation programme in the Eastern Pacific Ocean.77

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72 COM (2001) 143 final, Brussels, 16.03.2001. The European Commission sets out proposals for action in “Communications” referred to as “COM” documents. The Commission also makes use of “Green Papers” in order to consult on future policy in specific areas and firm proposals are prepared as “White Papers”. Communications, Green Papers and White Papers are not legally binding but are helpful indicators of the European Commission’s perspective on the future direction of the law and policy of the EC.

73 COM (2001) 135 final, Brussels, 20.3.2001. The Green Paper pays particular attention to the environmental dimension of the policy and suggests that more should be done to integrate in a proactive manner the environmental dimension into policy making in the common fisheries policy.


75 Council Regulation No. (EC) 1626/94, 27.6.94 laying down certain technical measures for the conservation of fishery resources in the Mediterranean, OJ No. L171/1, 6.7.94.

76 See R. Long and P. Curran, Enforcing the Common Fisheries Policy, Chapter 10, op. cit., note 71.

The principal disadvantage of this approach is that a technical conservation measure must be based on a European Commission proposal, which would have to secure the support of the majority of the Member States in the Council of Ministers. However, the common fisheries policy is under review and one of the outcomes of the review process could perhaps be the adoption of such a measure. In the absence of legislative action by the EC there may be sufficient residual legislative competence for Ireland to adopt a unilateral measure to protect deep-water coral. While the scope for a Member State to adopt unilateral conservation measures is clearly limited by the jurisprudence of the European Court of Justice, a national measure would have to accord with the general thrust of Community law and be in conformity with the rules of the common fishery policy. Ireland could argue that the purpose of such a measure is to address an obvious lacuna in Community legislation and as a coastal state Ireland has a duty pursuant to the LOSC, the Biodiversity Convention, the Berne Convention and the Habitats Directive to take protective measures for deep-water coral reefs.

The second disadvantage of this approach is that it exposes the cumbersome division of legislative competence between the EC and the Member States. The EC legislative competence to prescribe management measures for fisheries is limited to the “exploitation activities involving living aquatic resources”. This prescriptive legislative competence does not extend to include the mineral and other non-living resources of the sea-bed and subsoil of the continental shelf under the jurisdiction of the Member States. As noted above, coral reefs are partly comprised of non-living resources. Ireland has legislative competence

78 Member States are actively participating in the debate regarding the redirection of the policy. For example, in Ireland a National Strategy Review Group was established in 1998 with a view to developing a national strategy in the negotiations leading to a revised common fisheries policy. The Review Group published a report on fisheries management and nature conservation that endorses the Communication from the Commission on a Community Biodiversity Strategy. The report urges the Commission to implement a comprehensive action plan for fisheries management and nature conservation, see Report of National Strategy Review Group on the Common Fisheries Policy, July 2000 (copy with the authors). The report does not raise any issues pertaining to deep-water coral.

79 See, inter alia, R.R. Churchill, EC Fisheries Law, pp. 87–110, op. cit., note 60; R. Long and P. Curran, Enforcing the Common Fisheries Policy, pp. 103–107, op. cit., note 71.

80 The European Court of Justice held in Case 804/79, Commission v United Kingdom [1981] ECR 1045, that national measures are permissible, in the absence of Community rules, in cases of need arising from the development of technical and biological facts. See also Case 86-87/84, Criminal proceedings against I. Bout en Zonen BV [1985] ECR 9941. National measures cannot discriminate against vessels flying the flag of other Member States on the basis of nationality as this is contrary to some fundamental provisions of the EC Treaty, including Arts. 12, 39–42, 43–48, 49–55. National measures in the United Kingdom and Ireland to control the activities of vessels engaged in the phenomenon of “quota hopping” in the 1980s were found to be contrary to Community law, see R. Long and P. Curran, Enforcing the Common Fisheries Policy, Chapter 7, op. cit., note 71.

under the LOSC to prescribe conservation and management measures for those parts of the reefs which are considered to be part of the non-living resources of the continental shelf under Irish jurisdiction (within the 200-mile EFZ).\textsuperscript{82} The absence of EC legislative competence over the non-living resources of the sea-bed and subsoil may make it more difficult to reconcile the sovereign rights and duties of Ireland as a coastal state under the LOSC with those of the European institutions in the formulation and adoption of fisheries regulatory measures.

Finally, it must be borne in mind that, in the broader context of safeguarding the entire marine ecosystem(s), a technical conservation measure will not guarantee the long-term sustainability of deep-water fisheries which require a comprehensive framework for the management of all living marine resources.\textsuperscript{83}

\textit{Strand Two – Implementation by the coastal state of an ecosystems management approach to the marine environment}

A Technical Conservation Measure will only reconcile the fishery management issues and will not resolve difficulties with other ocean uses that may impact on the conservation of deep-water coral. In this regard, the only realistic legal management option available to Ireland is to designate sites of deep-water coral under the Habitats Directive as special areas of conservation. This will provide the legal framework for a management programme to protect the structural and functional integrity of deep-water coral ecosystems from deterioration and disturbance. It will also ensure that the environmental impact on deep-water coral is assessed and taken into consideration prior to the commencement of exploration and exploitation activities by the hydrocarbon industries.\textsuperscript{84}

Designation by the coastal states is important because it would be inherently unjust to regulate the fishing industry through the medium of European fishery law while the biodiversity of coral ecosystems continues to be put under threat by other sector activities such as oil and gas exploration and exploitation. Designation would also allow the coastal state to take appropriate management measures in relation to specific risks and would be a direct application of the Treaty obligation to adopt precautionary and preventative measures.

\textsuperscript{82} This legislative competence is derived from the sovereign rights vested in the coastal state over the continental shelf by Art. 77, LOSC. The exercise of this competence is of course subject to the rights and freedoms of other states under the LOSC, such as the freedom of navigation, Art. 76(2), LOSC.

\textsuperscript{83} The EC is currently formulating a comprehensive management scheme for deep-water species that is expected to come into force in 2003.

Strand Three – Improved monitoring and assessment of the conservation and management framework

The adoption of a technical conservation measure for fisheries and the designation of the sites as special conservation areas will not ensure a sustainable ecosystem for deep-water corals without appropriate enforcement and compliance mechanisms in the Member States.

Enforcement entails a range of operations including surveillance, inspection, detention and formal application of the law by judicial process. In the context of the proposed scheme for the protection of deep-water coral a distinction is made between coastal state enforcement jurisdiction and flag state jurisdiction. The LOSC vests the coastal state with considerable enforcement jurisdiction and vessels fishing in the Irish exclusive fishery zone will have to adhere to any conservation measures established to protect deep-water coral.85 The enforcement agencies in Ireland will be responsible for ensuring that there is compliance in the exclusive fishery zone with the provisions of any technical conservation measure adopted by the EC to protect deep-water coral. In order to discharge this enforcement function the Irish authorities will have to board and inspect vessels in the vicinity of coral areas. Vessels suspected of non-compliance with the regulations may be detained and escorted to an Irish port and be subjected to judicial proceedings. Violations of fishery conservation regulations are penalised by fiscal penalties, forfeiture of catch and gear, withdrawal of licence and suspension of licence. An example of the severity of the penalties may be appreciated when it is considered that a Japanese bluefin tuna vessel had to pay a penalty of £800,000 in 1995 for illegal entry and fishing in the Irish exclusive fishery zone without authorisation.86 In exceptional circumstances the Court in Ireland may order sequestration of the vessel. In line with international law,87 penalties for the violation of fisheries law in Ireland do not include imprisonment.88 Outside the Irish exclusive fishery zone responsibility for enforcement will rest with the flag state.89 In this regard there are a considerable number of provisions in the European fishery enforcement regulations that oblige Member States to exchange information and to prosecute vessels that violate fishery conservation measures in the sea area under the maritime jurisdiction and sovereignty of another Member State.90

85 Art. 62(4) (especially Art. 62(4)k) and Art. 73, LOSC.
86 This is over US$1M and is equivalent to 1.1 million Euro. The fine had two components, £100,000 penalty for the fishery offence, and the catch and gear was valued at £700,000.
87 Art. 73(3), LOSC.
88 There is provision in the Irish Consolidated Sea Fisheries Acts 1959 as amended for imprisonment in cases where a sea fisheries officer is obstructed or impeded from exercising their powers under s. 233 of the Act.
89 Art. 92(1), LOSC and Geneva Convention on the High Seas, Art. 6(1).
90 Council Regulation No. 2847/93, 12.10.93 establishing a control system applicable to the common fisheries policy, OJ No. L261, 20.10.93, as amended by Council Regulation No. 2846/98, OJ No. L358, 31.12.98. Title VIIIa of the latter regulation provides a legal basis in European law for the establishment of special inspection programmes and information exchanges between the enforcement authorities in the different Member States.
Violation of the management regime established under the Habitats Directive constitutes a criminal offence and may attract a fine of £1,500 and/or six months’ imprisonment under the transposition regulations.91 The penalties under this scheme appear to be derisory in comparison with the sanction regime that pertains to fishery law in Ireland. There is provision in the regulation, however, that the Minister of the Environment has the power to require the restoration of a damaged site (special area of conservation) by the party who does the damage, or the compensation of the Minister for the cost of restoration.92 One leading environmental commentator has suggested that this provision may be invalid because of a drafting error.93 It is also difficult to foresee how a deep-water coral habitat could be restored after damage.

It is clearly evident nonetheless that the sanction regimes that pertain in the fishery conservation regime and the habitat regime are disproportionate and may have to be reviewed should the suggested course of action outlined in this article be followed.

Conclusions

Deep-water coral and associated biodiversity are vulnerable to damage from commercial sea fisheries and the development activities of the offshore hydrocarbon industries. The current legal regime has a number of instruments that prescribe general and specific duties to protect the marine environment. In order to manage the risk to deep-water coral from human activities it is necessary to adopt forthwith a technical conservation measure for fisheries at European level and to designate coral areas as special areas of conservation under coastal state legislation (i.e. implement the Habitats Directive in all sea areas under the sovereignty and jurisdiction of the Member States). This approach would be the first step towards addressing the problem of conservation of deep-water coral in the Irish exclusive fishery zone in an integrated way and would ensure that environmental considerations are clearly evident in the corpus of law that regulates the utilisation of marine resources at both a national and European level.

91 European Communities (Natural Habitats) Regulations 1997, reg. 39.
92 Ibid., reg. 19.