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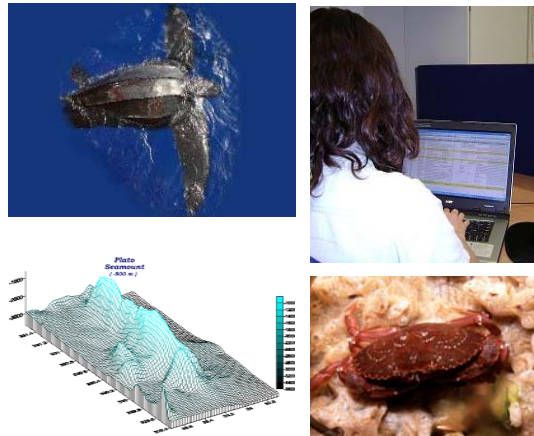
**LEGAL ASPECTS OF MARINE
ENVIRONMENTAL DATA**

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Summary Report

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1 Introduction

Large quantities of data relating to the marine environment are collected and stored all over Europe for a wide variety of purposes and by a variety of public and private entities. Such data are a key pre-requisite for effective strategic decision-making on maritime policy and also have a major role in promoting the development of economic activities relating to the maritime sector and the creation of new industrial products and services.

In order to improve access to marine environmental data, the European Commission has proposed the establishment of a European Marine Observation and Data Network (EMODNet) that will ensure that the data is compiled in a comprehensive and compatible system, and made accessible as a tool for better governance, expansion of value-added services and sustainable development.¹

Legal issues are one of a number of potential obstacles to the achievement of this objective. More specifically, intellectual property rights, which are claimed by European data holders even in cases where data have been produced using public funding, are in particular seen as an obstacle to improved data flows. The situation is contrasted with the United States where there are fewer restrictions on access to public-funded environmental data with, it is claimed, a resulting benefit to American industrial research and development.

The Study was commissioned to provide a better understanding of the legal rights and restrictions relating to marine environmental data by reference to a representative sample of the data-types that will be available through EMODNet and to provide the results in the form of a database. In accordance with the terms of reference (ToR), the Study:

- analyses the relevant legal framework under international and European Community (EC) law;
- describes the data collection exercise whereby the representative sample of marine environmental data was gathered;
- examines the implementation of the relevant rules of international and EC law in a number of European countries;
- reviews the restriction code contained in ISO standard ISO 19115 and, based on the data collection exercise, sets out a description of access conditions to European marine environmental data; and
- contains an analysis of a sample of the reporting requirements contained in the European Commission's OBONT database in terms of the ability of the Commission to publish the reported data to third parties.

Finally, some conclusions are presented.

2 Background: the relevant legal framework under international and EC law

¹ Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions An Integrated Maritime Policy for the European Union, COM(2007) 575, 10.10.2007, p. 6.

Two separate, yet closely related, areas of law are relevant to this Study: (a) intellectual property law; and (b) a range of legal instruments developed at international and EC level to facilitate access to information, including environmental information, and its re-use. It is the tension between these two areas of law that provides the background to the discussion that follows.

Furthermore, access and use restrictions may also originate from privacy and data protection laws if marine environmental data contain “personal data”. As the concept of “personal data” is defined very broadly, it cannot be excluded that marine environmental data (especially if they relate to human factors or activities) could, in certain circumstances, include personal data.

2.1 Intellectual property rights

‘Intellectual property’ generally refers to creations of the (human) mind such as inventions, literary and artistic works, symbols, names, images, and designs used in commerce.

Intellectual property rights (IPR) protect the interests of creators by giving them property rights over their creations. Such property rights relate to the items of information or knowledge which can be incorporated in tangible objects in an unlimited number of copies (and not to those objects or copies as such). IPR are usually also characterised by certain limitations, such as a limited duration in time in the case of copyright or patents.

Under the general heading of IPR are included a number of different types of rights including patents, trademarks and copyright as well as database rights. As regards access to marine environmental data copyright and database rights are probably the most relevant.

In most countries, IPRs are protected by statute law with the objective of giving formal legal expression to the moral and economic rights of creators over their creations and to the rights of the public in accessing those creations. Such laws usually also aim to promote creativity and the dissemination and application of its results. For a range of reasons, in particular their potential impacts on international trade IPR are also regulated under international law as well as EC law.

2.1.1 Copyright

It is difficult to define the term “data”. A distinction is frequently made between three levels of data: (a) raw data (unprocessed basic information, *e.g.* numbers); (b) processed data (with value added by the body handling the data); and (c) data products (specifically designed or tailored to meet certain information needs or requests).

From a legal perspective there is a general understanding that IPR in general, and copyright in particular, cannot be extended to cover the basic information, the ‘raw data’ such as the read out from a technical or measuring device. However, the ordering or manipulation of such data by putting them into a table or spreadsheet is sufficient to establish copyright in the particular arrangement of words and numbers so created.

Stonehaven Data from Standard monitoring Site Station 40cm diameter, 200 micron mesh, vertical net tow, 50m - 0m		Numbers in Species category as number per cubic metre on sampling date								
Short Species Name	Full Species Name	Date	03/07/2006	12/07/2006	17/07/2006	24/07/2006	02/01/2008	15/01/2008	21/01/2008	29/01/2008
FORAMIN-CLA	Foraminifera spp unidentified		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
GLOBIGE-FAM	Globerigina species		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
TINTINA-ORDS	Tintinnida species		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

Fig. 1 Zooplankton diversity data (species identification and counts): Stonehaven/Loch Ewe Ecosystem Monitoring: Zooplankton (species abundance data from: Jan 2008, July 2006, July 1998). Crown copyright used with the permission of the Fisheries Research Services Marine Laboratory, Aberdeen.

To take by way of example the data sample in Fig. 1, the IPR are held not in the measurements *per se*, the numbers (or in this case the zeros) that record those measurements, but rather in the ordering of these numbers in this particular format on the spreadsheet in question. To the extent that this data has been manipulated by entry into a spreadsheet it has been processed sufficiently to no longer be classified as ‘raw’ data and thus it may benefit from copyright protection. Copyright arises automatically and without formality upon creation of the work, generally once it is fixed in some material (reproducible) form.

International harmonisation of copyright law has been achieved to a certain extent through, a number of international agreements and, within the EU, through a number of copyright-related Directives, including the Database Directive 96/9/EC and the Copyright Harmonisation Directive 2001/29/EC. However, the subsistence and enforcement of copyright will mainly occur at the national level.

Pursuant to the Database Directive, databases (in any form) can benefit from copyright protection if “by reason of the selection or arrangement of their contents” they constitute the author’s own intellectual creation (i.e. concept of originality). The copyright protection does not extend to the data contained in the database (which may however be subject to copyright in its own right). The *author* of the database will be the natural person(s) who created the database or (where national legislation permits it) the legal person designated as the right-holder by that legislation (e.g. the employer of the database creator).

In addition, or alternatively, there may be a “*sui generis* database right” protecting the content of the database (irrespective whether there has been creativity in its arrangement), provided that there has been a substantial (qualitative and/or quantitative) investment in obtaining, verifying or presenting the material. This right, which aims to protect the investment of time, money and effort incurred by database producers in relation to non-original (in terms of intellectual creativity) databases, should protect the *maker* of the database against the unauthorised extraction and/or re-utilisation of the whole or a substantial part of the database.

Public or private sector databases containing marine environmental data may therefore be protected by both copyright (if they are intellectual creations in terms of their arrangement or selection of the data) and/or by the *sui generis* database right (if they are the product of a substantial investment in obtaining, verifying or presenting the data).

Where copyright subsists, the proprietor will have the exclusive right to authorise third parties to use the protected materials. There are generally two types of rights under copyright: (i) economic rights (which allow the author to derive financial benefits from the use of his works by others); and (ii) moral rights (which allow the author to take certain actions in order to preserve the personal link between himself and the work).

Rights owners will usually be able, under applicable copyright law, to prohibit or authorise the reproduction of the work by others, the communication of the work to the public, the distribution of copies of the work to the public (by sale or otherwise), the rental of copies, as well as the alteration (including translation) of the work.

The net effect is that re-use, and in some cases, the access to copyright material will not be possible without the author's consent. At the very least, it will not be possible to transfer copyright material from the copyright proprietor to another without the said copyright proprietor's consent and it will also not be possible to pass it on between third parties without consent. Consent of the copyright owner may thus be essential in order for copyright not to pose a barrier to the flow of copyright material containing marine environmental data.

In most countries, the copyright regime will allow for limitations of copyright and the possibility of defences and permitted acts in certain circumstances whereby a document may be dealt with without infringing copyright (*e.g.* for the purposes of criticism and review, for teaching purposes and personal, private and non-commercial use). Furthermore, the Copyright Harmonisation Directive provides for a long list of exceptions to copyright protection that Member States can incorporate into their national copyright laws.

Under the laws of many countries, owners of copyright can transfer their economic rights in the work to third parties, in return for the payment of fees. The payment of such fees (usually described as "royalties") is usually made dependant on the actual use of the work by the third party. Copyright owners will usually not "sell" their copyright as such (*i.e.* transfer their property rights), but will use licensing. In relation to copyright, licensing means that the owner of the copyright retains ownership but authorises a third party (on an exclusive or non-exclusive basis) to carry out certain acts covered by his economic rights, generally for a specific period of time and for a specific purpose which is defined in the licence agreement.

Sometimes ownership of the IPR in data can be mixed. For instance, the IPR in certain data sets may be held by a public sector body but may include data for which the IPR are held by a (private) third party supplier (for instance, photographs or satellite images). In that case, the public sector body may only be able to grant user rights for the part of the data in which it holds the IPR. For the other parts, applicants may first need to clear their access and re-use rights with the relevant rights holder (provided the public sector body would not itself be authorised by that rights holder to directly clear this – *e.g.* through licence terms).

2.1.2 Patents

Patents protect the rights of inventors. Simply put, a patent is the right granted to an inventor by a national or regional patent office, which allows the inventor to exclude anyone else from commercially exploiting the invention for a limited period (generally 20 years). However, the importance of patents with regard to the issue of access to and re-use of marine environmental data is probably rather low: such data are not patentable, while "presentations of information" are deemed not to constitute an invention and are thus excluded from patentability.

2.1.3 Trademarks

The same can probably be said for trademarks. A trademark is a sign or combination of signs which distinguishes the goods or services of one enterprise from those of another (in connection with the marketing of those goods or services). As with patent law, it does not seem very likely that trademark law poses much of a barrier to the availability and use of marine environmental data except possibly in cases where processed marine environmental data is available in the form of a product or service for which a specific trademark was registered.

2.1.4 Data ownership

In relation to IPR held in data, it is useful to make a preliminary distinction between the “data holder” (*i.e.* the person “physically” holding the data) and the “data owner” (*i.e.* the person holding IPR in the data). These may be separate persons. For instance, data (including the potential IPR in those data) may belong not to the person who collected them or who is processing them but to the employer of that person or to the person who paid for their collection.

In the case of data held by an organisation the rules regarding the use and exploitation of data will generally be the subject of a data policy setting out the rules and procedures to be observed by the members of the organisation when dealing with the data. Data owners are basically free to authorise the (re-)use of the data in accordance with their own data policies (although as will be seen particular rules apply to some public sector data owners). IPR can be jointly owned by two or more persons who will all need to agree on the way the data may/may not be exploited.

2.1.5 Data policies

Data centres may of course also voluntarily waive the exploitation of their IPR. In fact, the approach to IPR (*i.e.* the extent to which it is claimed) may be significantly different depending on the nature of the relevant data centre. Public authorities and governmental agencies may take a much more open or “liberal” approach to IPR than private sector data providers (who will keep their IPR tightly controlled for commercial reasons). The level of IPR restrictions may of course also be directly related to the (potential) commercial value of the data and the costs incurred in the collection of the data.

2.1.6 Licences

If right holders decide to make the data available to third parties, their relevant data policies will generally recommend or impose the use of a formal licence agreement to control the release and further use of the data. Data owners have the ability to establish such formal licence agreements for the (re-)use of their data.

A licence is a contractual document whereby a person (usually described as “the licensor”) grants permission to another person (usually described as “the licensee”) to use the data in respect of which the data owner holds the IPR. The licence will govern the further use (and dissemination) of the data by the licensee who will be obliged to observe the conditions and restrictions contained in the licence.

It is important to note that data owners usually do not “sell” data or the IPR they hold in that data. Instead they only “sell” a right to use the data (subject to the licence conditions) and, for that purpose, provide access to the data. A licence to use data, like many other types of contract, can be created in a number of different ways including through the use of standard form contracts, individually negotiated contracts, the use of “legal notice” or a “disclaimer” (usually in cases where data are made available on a “without conditions” basis) and sometimes by simply clicking on a webpage or using a web-site.

Licence agreements will usually address all the issues that are relevant to control the dissemination and further use of the data that are made available. Commercial data suppliers

will normally grant the licence subject to the payment of a market-based licence fee. Typically, licences will contain provisions on the uses to which the data may be put by the licensee.

Licences may also contain provisions with regard to the confidentiality of the data and will also specifically address the protection of the data supplier's IPR in the data. These IPR provisions may of course affect the licensee's possibilities to use and disseminate the data as he will be required to comply with the restrictions imposed by these provisions (for instance, not to reproduce or distribute any copyrighted data without the prior consent of the right-holder or at all times display the copyright notice of the data supplier).

Users sourcing marine environmental data under a licence agreement need to be aware that the conditions imposed by the licence may significantly restrict their ability to freely use the data or share them with other recipients.

2.2 Instruments that promote access to environmental data and the re-use of environmental data

2.2.1 The Aarhus Convention

The 1998 Convention on Access to Information, Public Participation in Decision-making and Access to Justice in Environmental Matters (the "Aarhus Convention") aims at granting the public rights and imposing obligations upon public authorities regarding access to information and public participation and access to justice regarding environmental matters. The EC and the Member States are party to the Aarhus Convention.

2.2.2 The Environmental Information Directive 2003/4/EC

The Environmental Information Directive seeks to give effect to aspects of the Aarhus Convention by *inter alia* guaranteeing the right of access to environmental information held by, or for, public authorities and to set out the basic terms and conditions of, and practical arrangements for, the exercise of this right of access.

The term 'environmental information' is very broadly defined and includes marine environmental data. The directive applies to information held by and for 'public authorities' which are defined to include: (a) government and other public administration (including at local level); (b) any person performing administrative functions; and (c) any person with public responsibilities/functions or providing public services relating to the environment and under the control of a body/person in (a) or (b). Environmental information should in principle be made available to any person making a request as soon as possible and while there is a presumption in favour of disclosure the directive lists a number of grounds on which requests for data can be refused. Reasons for any such refusal must be provided as must a review procedure. Reasonable (cost-oriented) charges can be made for such data although, in particular cases, market charges can be levied in connection with the provision of data on a commercial basis.

2.2.3 The Environmental Information Regulation 1367/2006/EC

This regulation, which must be read in conjunction with the Transparency Regulation 1049/2001/EC gives effect to the obligations of the EC under the Aarhus Convention. Broadly speaking it follows the same approach as the Environmental Information Directive.

2.2.4 The Re-use of Public Sector Information Directive (PSI Directive) 2003/98/EC

This directive defines re-use in terms of the use of documents for commercial or non-commercial purposes other than the initial purpose for which the documents were produced but does not include document exchange between public sector bodies in pursuit of their public tasks. The term ‘document’ is broadly defined. The directive applies to “public sector bodies”, but data held by educational and research institutions are excluded from the scope of the directive. It is important to note that the directive does not require the re-use of relevant documents. Rather it provides that if re-use is permitted then this must take place in a fair, proportionate and non-discriminatory manner. A number of rules regulate the processing of requests, refusals, the use of conditions for re-use through licensing and the development and use of standard licences. The directive also contains rules on charging for the re-use of PSI: any charges must not exceed the costs of collection, production, reproduction and dissemination together with a reasonable return on investment.

2.2.5 The Re-Use Decision 2006/291/EC/Euratom

The Re-Use Decision applies to documents authored by the Commission or public/private entities on its behalf, whether or not these have been published, and contains largely similar definitions and re-use principles as the PSI Directive.

2.2.6 The INSPIRE Directive 2007/2/EC

The INSPIRE initiative seeks to trigger the creation of a European spatial information infrastructure that delivers users integrated spatial information services. The INSPIRE Directive imposes a general obligation upon public authorities to make ‘spatial information’, which may include marine environmental data, accessible to possible actors, including policy-makers, planners, and managers at European, national and local level and citizens organisations and enterprises. It will be based on national infrastructures for spatial information that are created by the Member States in accordance with common implementing rules. The directive also lays down principles concerning the access to and sharing of spatial data and the circumstances under which charges can be levied, although as a minimum and free of charge, Member States are required to make available to the public services for discovering and subject to certain conditions viewing spatial data sets. The INSPIRE Directive does not affect IPR in relevant spatial data and some limited restrictions or derogations are provided for.

2.2.7 Data security policies

Restrictions on access to marine environmental data may also originate from rules regarding the classification of data by institutions at Community and Member State level in order to safeguard activities in areas which require a certain degree of confidentiality.

3 Analysis of a representative sample of marine environmental data

Through the collection of a representative sample of marine environmental data from a range of public and private European data centres, the aim of the data collection exercise was to investigate how the legal framework described in the previous Part is implemented in practice.

With the agreement of the Commission it was agreed to undertake the exercise in Bulgaria, France, Greece, Poland, Spain, the UK and Norway. These countries were selected for a range of reasons: (a) between them they border all of Europe’s seas; (b) they represent a mix of ‘old’ and ‘new’ Member States’; and (c) include the main European legal traditions.

The next step was to identify and categorise the data types to be collected. The data types provided in the ToR were mapped against the categories of the European Directory of Marine Environmental Datasets (EDMED) because *inter alia* much of the relevant data had already been classified in EDMED and it was felt that this would facilitate the making of comparisons across countries (see Figure 1).

Commission Data Type	EDMED Data Types			
1) hydrography (bathymetry, coastline)	HYDROGRAPHIC SURVEYS (navigation/engineering)	ATLASES & MAPS		
2) geology (sediments, geological substrate, geological hazards (earthquake zones etc), coastal erosion)	GEOLOGY - GEOFYSICS - SEDIMENTATION	COASTAL STUDIES (e.g. shores, estuaries)	SEAFLOOR SAMPLES (e.g. core, dredge, grab)	
3) physical oceanography (temperatures, salinity, tides, currents)	PHYSICAL OCEANOGRAPHY	METEOROLOGY		
4) biology (anything living from plankton to whales - except fish) - abundance and diversity	MARINE BIOLOGY		SEAFLOOR SAMPLES (e.g. core, dredge, grab)	
5) fisheries (catch, effort, capacity, discards etc)	FISHERIES			UNDERWATER PHOTOGRAPHY
6) chemistry (pollution, nutrients, sewage etc)	OCEAN COMPOSITION			
7) human activity (oil rigs, gravel extraction, shipping)	ENVIRONMENTAL QUALITY/POLLUTION	Accidents/Response	Maritime Traffic	Shipping/ port information

Figure 1 – Mapping of Commission data types to EDMED

The data collection exercise was undertaken in two stages. In the first stage the ‘data hunters’: (a) identified the data centres in each country and the size/scope of relevant data holdings; and (b) gathered information about applicable data policies. In the second stage the data hunters were tasked with a sampling exercise to ask for specific datasets, on the basis of a common list, and to record their experiences. A similar exercise was undertaken with respect to a number of Europe-based international organisations. The purpose of this stage was not to obtain a statistically significant sample of data sets for analysis, but rather to try and record the practical difficulties in accessing data in a way such that comparisons could be made across countries. The findings of the two stages were entered directly into a specially created database (see Figure 2).

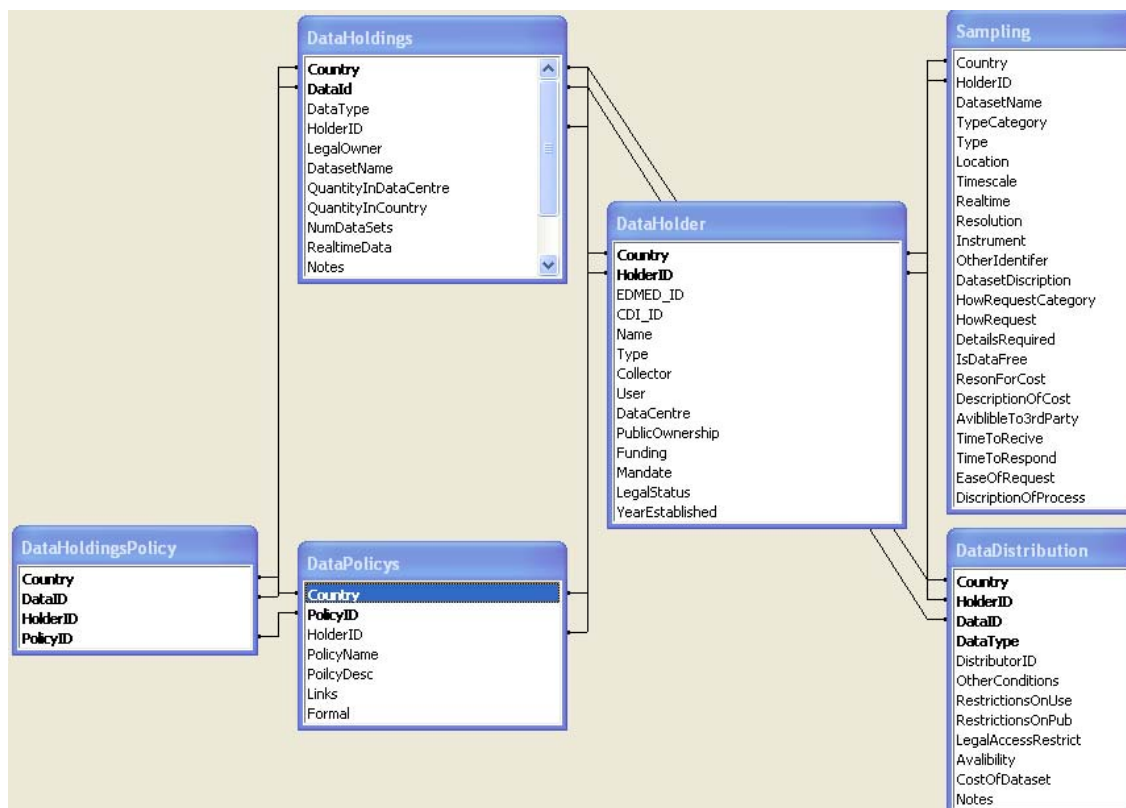


Figure 2 – Relationship between the main data tables

The use of a database permits analysis of the findings through the use of a number of queries. Although the purpose of the exercise was not to gather a statistically valid sample but rather to gain a somewhat systematic picture of the practical implementation of the various legal rules, analysis of the database nevertheless suggests that some preliminary conclusions can be drawn. For example, just over half of the data centres are located in France and the UK, while marine environmental data is predominantly held by public institutions. With regard to the total number of datasets, again over half are held in France and the UK, although a considerable number are held in Spain. On the other hand more datasets per data centre appear to be held in Poland, Spain and the UK. In terms of data policies, in general terms public institutions are more likely to have formal data policies, as are international organisations. There are clear differences among the study countries as to the types of restriction in effect, although overall it appears that France and Spain have relatively more open data policies. In terms of the relative ease of acquiring data, this is clearly a more difficult (subjective) issue to compare. It is probably not very surprising to find that it is generally speaking harder to obtain data from academic and commercial data centres as well as those that are required to make a commercial return. The differences between ease of sampling between data types is harder to show, but chemistry, biology and physical oceanography appear to be the easiest types of data to retrieve. In addition a descriptive summary of the data hunters' experiences was prepared for each country from which the wide variations in terms of the existence and content of data policies are clear.

4 The implementation of the relevant legal framework in the study countries

The implementation of the EC legal framework in the countries subject to the data collection exercise (France, Greece, Norway, Poland, Spain and the UK) was next analysed. The following issues were specifically examined:

- the scope of the local implementation laws in terms of categories of data and actors involved, as well as in terms of potential grounds for refusal of access to and/or re-use of the data;
- the rules on charging for access to and/or re-use of the data;
- the interaction between the specific access regime for environmental data and the legal regime for the re-use of PSI;
- the use of standard licences for the re-use of PSI;

In general terms, all of the surveyed countries have implemented legislation to give effect to the Environmental Information Directive (sometimes in conjunction with general freedom of information legislation). Poland is currently in a state of transition with new legislation in the process of being adopted.

Although marine environmental data is not specifically referred to in national legislation there are no real doubts but that it is included within the notion of environmental data. There are no obvious deficiencies with regard to the manner in which the scope of application of the Environmental Information Directive has been transposed into national law. The military is generally subject to the environmental information regime but with the kinds of potential for exemptions foreseen in the directive. In Norway the private sector is also included.

There are no particular surprises as to the scope of data centres that are deemed under national law to be subject to the directive. UK case law suggests that simply carrying out a public function is not sufficient for the relevant legislation to apply – the function must be administrative. It also suggests a broad notion of the concept of holding environmental data.

As regards possible refusal grounds in most countries those specified in the directive have generally been followed. In France two of the possible refusal grounds seem to have been omitted while in Poland the refusal grounds are slightly different.

There is greater variation as regards the issue of charges, with more or less guidance being provided. That the mechanisms for charging in Bulgaria and Greece are less well known is a finding that is substantiated by the data collection exercise.

In general terms, difficulties encountered during the data collection exercise seem to have resulted as much from unfamiliarity with the process due largely in some countries (Greece and Bulgaria for example) with a lack of practical experience of the process: few requests for marine environmental data having previously, it appears, been made.

With regard to the issue of the re-use of public sector information the picture is broadly similar. The scope of the public bodies that are required to comply with the PSI regime and the types of information that may be excluded seem to comply with the EC framework. Only with regard to Poland there seems to be a question mark regarding transposition, with infringement proceedings recently being launched by the European Commission.

As regards the rules on charging, in some countries, such as Bulgaria these do not permit a reasonable return to be made on investment. The UK rules do, but the guidance on charging

is outdated. In France IPR are expressly referred to as a factor that may be taken into account in setting the level of charges. As regards re-use licences, standard licences have been prepared for the UK, while they are currently missing for Bulgaria and France. The relevant Spanish legislation contains quite detailed rules on the content of re-use licences, while guidelines have yet to be adopted in Norway and Greece and Polish legislation is silent on this.

In summary on the basis of the data collection exercise and the analysis of applicable legislation there do not seem to be particular problems with regard to gaining access to marine environmental data. More difficult, though, is the question of re-use.

This is because the regimes that promote access to environmental information and the re-use of public sector information operate in parallel to IPR, at EC level and in the legislation of the selected countries. More specifically the innovations contained in, for example, the Environmental Information Directive and the PSI Directive cross refer to IPR and take account of the IPR regime but without fundamentally altering it.

Most obviously it is important to recall that the PSI Directive does not require the Member States to allow the re-use of public sector information. The decision whether to allow the re-use of public sector data may for instance be dependent on the public body in question (in the exercise of its IPRs). Rather the Directive seeks to provide a 'level playing field' in the event that re-use is permitted. It follows that in the context of European marine environmental data the PSI Directive does not expressly require data to be made available for re-use or to specify any favourable basis for this. And of course it applies only to data held by public sector bodies thus removing a large number of data centres from the equation (educational and research establishments are expressly excluded from its scope).

The Environmental Information Directive poses more of a challenge to the notion of IPR but only by a matter of degree. The directive, which again does not apply to all categories of marine environmental data holders, only requires an applicant to be granted access to data. It does not *per se* authorise re-use. The implementation of the INSPIRE Directive will not alter the basic position regarding re-use.

In summary for some classes of data centres (*i.e.* public data centres) the environmental data and re-use regimes modify the grant of access and if re-use is permitted how that takes place. Otherwise, though, it is up to each data centre to determine the issue of access (it if is not subject to the directive) and re-use in any event.

This is a matter to be determined in accordance with the individual data policy of each data centre. A data policy may address a range of issues beyond data use (such as data recording, archiving, formatting and back-up procedures as well as charging) but it is the data use conditions that are the key here.

One of the findings of the data collection exercise is that many European data centres holding marine environmental data appear to have no formal data policy. Or, and in practical terms the effect may be similar, persons working in such centres are not aware that any such policy exists. The lack of a formal data policy typically means that the entire process of data acquisition (for purposes of access as well as re-use) is more complex, time-consuming, and likely less transparent, particularly as far as the issue of charging is concerned. The lack of a formal data policy can also be harmful for data centres if they release data or even give it

away without safeguarding their interests. Furthermore in a number of cases the lack of a formal policy can mean it is hard to identify who precisely is the owner of IPR in the data.

Nevertheless even those data centres without a formal data policy were generally aware of the need for such a policy and in a number of cases policies were in the process of development. In broad terms the data collection exercise demonstrates that data is generally relatively available for re-use for non-commercial purposes without cost or at very low cost.

However in cases where marine environmental data is required for commercial use or re-use the picture is quite different. Very few of the data centres contacted have a completely free re-use policy. Norway's meteorological service is one rare exception. Elsewhere the commercial value of data, and the possibility of exploiting this value, was clearly recognised whether informally, as in the case of Bulgaria's data centres, or formally.

In the UK, in particular, the notion that such data is a potentially valuable resource is clearly recognised. The data policy of the UK Met Office expressly refers to the 'principles by which the Met Office trades in data'. This is no accident. Although the Met Office and the UK Hydrographic Office (UKHO) are both public (state) entities, they have the status of 'trading funds' and as such are set up expressly to trade. Indeed both obtain much of their income from the sale and licensing of information through the exploitation of IPR including IPR in data.

Apart from generating an income that would otherwise have to be provided through a budget allocation (thus reducing overall public expenditure), a number of benefits are claimed for this approach. In particular state bodies are freed from bureaucratic procedures to innovate and to provide flexible approach to data management and data use in response to market demands. On the other hand, leaving aside the basic question of whether public bodies should in fact charge for the re-use of such data, a number of concerns have emerged around this kind of business model. These include the overall cost to the economy, the basis on which charges are in fact calculated as well as the fact that the trading funds may themselves be in competition with potential data (re-)users. Indeed a recent report noted that trading funds may also seek to obtain commercially sensitive information, including details of business models, from those who seek to obtain data that they hold in order to appropriately tailor licence conditions and calculate royalties.

In this connection it is pertinent to note that the UK Government recently announced a review of trading funds including the UKHO.

As noted in the Introduction, this kind of approach under which IPR are asserted in connection with the re-use of public sector environmental data in order to generate an income flow is contrasted with the situation in the United States where a policy of open and unrestricted access to taxpayer-funded government-generated public information applies.

It does not necessarily follow, of course, that an open re-use policy offers no challenges of its own. Issues may arise relating to the degradation of data as well as well as negative impacts on both the funding of public data centres and the degree to which they may take an innovative approach.

These questions are, however, ultimately one of policy rather than law. Of course the law will most likely have an important role to play if a new policy is adopted but the development of

new policy will be guided by a range of social, economic and ecological issues that will first need to be addressed before legal solutions are proposed.

5 ISO 19115 and the description of legal access conditions to marine environmental data

ISO Standard 19115, which was developed by the International Standards Organisation (ISO) and adopted in 2003 is concerned with 'meta-data', in other words data that describes data. Originally designed to provide a structure for describing digital geographical data it is in practice the only meta-data standard that is commonly used to describe environmental data with a spatial element.

Among the optional meta-data are a set of elements specified as 'MD_LegalConstraints'. These are set out in a Code List, called 'MD_RestrictionCode', which states:

- + copyright
- + patent
- + patentPending
- + trademark
- + license
- + intellectualPropertyRights
- + restricted
- + otherRestrictions

In practice, however, these elements provide little information as to the availability of marine environmental data. As described above, patents (including pending patent applications) and trademarks have little relevance. Marine environmental data may be subject to copyright claims while licences are the typical means whereby access to data is granted – and not a restriction as such. It is not clear what is added by the general heading +intellectual Property Rights (after all copyright, patents and trademarks are all forms of IPR) while the headings +restricted and +other Restrictions are extremely general. In short these headings are neither systematic or entirely logical.

Based on the findings of the Study the following description of access conditions is proposed. The fundamental answers to the question whether marine environmental data are available or not are the following: (a) the data are not available; (b) the data are freely available for use/re-use without restriction; and (c) the data are subject to IPR and available on the basis of a licence.

There is not really much more to be said in respect of (b). With regard to (a) it will be useful to describe why data are not available. The following main headings are proposed: (a) military secret; (b) scientific moratorium; (c) commercial confidentiality; (d) conservation confidentiality; (e) IPR; (f) unfinished document; and (g) personal data.

As regards (c), which is by far the most common scenario, four basic headings are proposed. These are:

- (a) **Licence type** – ranging from simple disclaimer, through a standard licence to an individually negotiated contract;

- (b) **Restrictions on use** – under which five types of permitted use are typically specified: (1) research; (2) education; (3) individual use; (4) commercial use; and (5) government/official use;
- (c) **Payment** – often relates to the purpose for which the data is to be used and includes: (1) data provided for free for all purposes or only for non-commercial purposes; (2) data provided against payment based on a number of criteria including staff time spent dealing with a request, a published scale of fees, collection cost charge and so on. Such payments may be a one-off event or periodical by way of subscription.
- (d) **Other conditions** – under this heading are a long list of criteria including such issues as: (1) the use to which the data is put (e.g. use in a confidential manner); (2) publication; (3) third-party use; (4) data quality/integrity; and (5) a number of other restrictions including issues relating to licence termination and liability.

6 OBONT database analysis

In contrast to the elements of this Study, which focus on the perspective of potential users of marine environmental data, this task considers the rights of the European Commission as a data holder in terms of the publication of fisheries data reported by the Member States in connection with the Common Fisheries Policy (CFP). In addition to data collected pursuant to the Data Collection Regulation (EC) 1639/2001, there are nearly 800 reporting obligations for Member States for parameters such as catch, effort and capacity. Using a sample of reporting requirements contained in the OBONT database (OBONT stands for ‘obligations on the net’) this task required an analysis of the legal conditions under which this data can be published and disseminated to third parties.

In order to devise the representative sample, it was decided to use the headings of the Eurlex database. A first comparison between the two databases (Eurlex and OBONT) revealed that: (a) not all of the fisheries related instruments are listed in OBONT; and (b) some of those listed are obsolete.

Although, as described above, there is a basic presumption of access to information held by the European Commission, this does not automatically mean that the latter has the right (let alone the obligation) to publish all of the data it receives. Two issues in particular may restrict the Commission in this respect: (a) confidentiality; and (b) personal data. These issues are analysed in detail in a sister Study on Legal Aspects of Maritime Surveillance Data and are summarised here.

6.1 Confidentiality

Confidentiality may arise *inter alia* from legal provisions that specify that certain data are confidential or are to be treated in a confidential manner. For example, in connection with the CPF the Member States and the Commission are required to ensure that data received in the framework of the Control Regulation (EEC) No, 2847/93 are ‘treated in a confidential manner’. Furthermore such data: (a) must not be transmitted to persons other than those officials who formally require it in connection with their functions; (b) are covered by professional secrecy; and (c) may only be used for the purpose provided for in the regulation unless the authorities providing the data give their express consent to further uses that are lawful in terms of the legislation of the relevant Member State. The Control Regulation does, however, go on to provide that these restrictions should not be construed as a prohibition against the publication of general data or studies that do not contain individual references to

natural or legal persons. In order to identify confidentiality provisions three separate columns were added to the revised OBONT database to identify: (a) instruments that specifically refer to the Control Regulation or which were adopted pursuant to or in accordance with it; (b) instruments that contain their own references to the issue of confidentiality; and (c) instruments that neither refer to the Control Regulation nor contain references to confidentiality.

6.2 Processing of personal data

If data in the OBONT database include personal data those data may in principle not be published. The two main instruments of EC data protection law, the Data Protection Directive 95/46/EC and the Data Protection Regulation 45/2001/EC, define personal data as ‘any information relating to an identified or identifiable natural person’. While the names and personal details of individuals are clearly personal data the notion is sufficiently broad such that fishing vessel names and registration numbers may be included under this heading. The Control Regulation also addresses the issue of personal data in a very broad way. Consequently a further column in the revised OBONT database identifies instruments that contain express references to the protection of personal data or which appear to contain personal data in the broad sense discussed here.

6.3 Publication

Analysis of the revised OBONT database shows that many of the instruments that contain reporting requirements described in the OBONT database include data that may be personal and/or confidential. On the basis of this exercise it is not possible to come up with a global conclusion as to the extent to which reporting can be published. Each reporting requirement will have to be dealt with separately on its merits. In other words if a requirement contains data that is potentially personal data or which is subject to a confidentiality restriction it may not be published.

7 Conclusions

On the basis of this Study the following conclusions and observations can be made. First of all, as seen in Part Two, the legal regime that regulates access to marine environmental data in Europe as well as the use and re-use of such data is somewhat complex. Deriving from both international law and EC law this regime comprises two separate bodies of law with distinct and indeed sometimes opposing objectives.

One body of law seeks to promote access to environmental data and the re-use of data held by public sector bodies including environmental data. The other body of law seeks to encourage innovation by recognising the rights of creators of intellectual property through the grant of IPR. Put another way the first body of law seeks to promote flows of environmental data, while the second body of law may have the effect of constraining such flows.

Furthermore, in terms of marine environmental data, the first body of law does not guarantee access to all marine environmental data let alone its re-use. The right to access marine environmental information conferred by the Environmental Information Directive is restricted to data held by ‘public authorities’, which broadly speaking includes government and public administrations and other entities performing administrative functions. In other

words many European data centres that hold marine environmental data (such as universities, research centres and private companies) are not subject to the directive.

Apart from the fact that the right to access environmental data is subject to a number of possible restrictions (including IPR) it is important to note that the Environmental Information Directive does not *per se* authorise the re-use of such data: it only requires that access be given.

And while certain types of marine environmental data may be subject to the PSI Directive, it is important to recall that that instrument does not in itself require the Member States to allow the re-use of public sector information. Instead, the directive (which in any event only applies to 'public sector bodies' which term does not include educational and research establishments) specifies that if re-use is permitted then it must take place on a non-discriminatory basis. The INSPIRE Directive will not alter this basic position.

The overall effect is that issues of data access and re-use are largely determined by the data policies of individual data centres, policies that determine how IPR (specifically copyright and data base rights) relating to such data are to be exercised. More specifically: (a) as regards data centres that are not subject to the Environmental Data Directive, data policies will determine the circumstances in which access to the data may be granted; and (b) for all data centres such policies will specify the circumstances in which marine environmental data may (or may not) be used or re-used.

Therefore while the analysis described in Part Four, shows that broadly speaking the study countries have correctly implemented the legislation at national level, while there are no particular legal problems as far as access to marine environmental data is concerned, the question of use/re-use is governed by the exercise of IPR and the implementation of individual data policies. In other words there is not a problem of non-implementation of existing international and European rules in terms of access to and the use/re-use of marine environmental data, rather that those rules have a limited impact on IPR and thus in their ability to facilitate data flows. Within the current legal framework data policies play a central role in this matter.

As demonstrated by the data collection exercise, described in Part Three, there are wide variations among European data centres with regard to data policies and access to marine environmental data. For a start, not all data centres appear to have formal data policies. Furthermore, there are variations with regard to the substantive content of data policies with those of some data centres, particularly in the UK, being premised around income generation through the exploitation of IPR.

This kind of approach is contrasted with the situation in the United States where a policy of open and unrestricted access to taxpayer-funded government-generated public information applies. As noted in the conclusion to Part Four of this Study such type of open re-use policy may well present a number of separate challenges and the question whether it would be appropriate in terms of Europe's marine environmental data raises a range of social, economic and ecological issues that are beyond the scope of this Study.

Clearly if a decision is taken at the policy level to move towards an open re-use policy, the law will have an important role to play. Having said that, a head on' or direct challenge to IPR in terms of environmental data in general, or marine environmental data in particular, can

be ruled out. IPR play too important a role within Europe's market economy (within the global economy for that matter) to countenance substantive modification *per se* to the legal rules that regulate copyright and data base rights. Instead a more circuitous route will likely be more appropriate, one cast in terms, for example, of linking funding to IPR by, for example, assigning copyright to the funder or requiring, as a condition of funding, the waiver of copyright in specified circumstances.

Another finding of this study in terms of possible legal restrictions is that the restriction code contained in ISO 19115 provides little useful guidance as to the conditions under which European marine environmental data are available. Instead, based on the findings of the data collection exercise, a broader description of access to marine data has proposed, based around three initial questions: (a) the data are not available; (b) the data are freely available; and (c) the data are subject to IPR and available on the basis of a licence.

Finally Part Six of the Study contains a description of the analysis of the reporting requirements contained in the OBONT database that was undertaken to investigate the ability of the Commission to publish the reported data to third parties. A key finding is that based on the reporting requirements that were sampled many of the instruments that contain reporting requirements include data that may be personal and/or confidential and which may only, therefore, be published in an aggregated form.