



Coastal Metadata in the Severn Estuary

A Report to the Severn Estuary GIS Forum and Severn Estuary Partnership

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Introduction

The SEP GIS Forum exists to bring together technicians, users and owners of GIS data within a network, and building on this, to work together to provide a framework, to resolve the current lack of co-ordination and harmonisation of GIS data to aid spatial planning on the Severn Estuary.

As is often the case in the coastal zone, much data and metadata has been generated for specific purposes or projects. However, no-one organisation is responsible in the coastal zone for the general task of co-ordinating and this metadata. This issue was identified by the Severn Estuary Partnership in *A Strategy for the Severn Estuary* (2001). This report describes a project to develop a metadatabase for geospatial data on the Severn Estuary, to explore the process of developing such technology, and to develop this mechanism for the transfer and dissemination of information.

A survey of organisational holdings revealed 3 major existing datasets which had aggregated much baseline spatial data relevant to the coastal zone:

- Marine Aggregates Dredging and Constraints Study (Welsh Assembly Government)
- Severn Estuary Shoreline Management Plan (Shoreline Management Group)
- Data Holdings Survey (Environment Agency)

In addition a Spatial Metadata Survey by the Severn Estuary Partnership identified approximately 40 records.

Drawing on a number of national and international standards, a metadatabase with key fields related to existing standards has been developed using Microsoft Access software. The database has been designed with options for expansion and in a form that will enable user queries. At the present time (September 2005) the technology can be considered as a prototype containing approximately 300 metadata records.

However, the project aims to avoid raising false expectations with the development of such technology. The utility of the metadatabase will be dependent on the quality of records, commitment to maintenance, and ease of metadata generation to add further records; and by the ability of users to query and update the metadatabase. Consequently this report concludes by identifying future options for the dissemination of the Metadatabase.

The design and implementation of a metadatabase can be considered a first step in developing more effective information management for the Severn Estuary, which will also require consideration of the issues of interoperability and inter-organisational information systems based around clear functions.

Executive Summary

Why do people generate metadata?

Metadata is commonly used by organisations to manage their own extensive datasets, to allow collaboration within an organisation (the size of a large organisation may sharing data to become a technical rather than personal task), and to facilitate the exchange and discovery of datasets. Metadata will help maintain value of dataset by allowing its re-use. The recent Aarhus Convention on Freedom of Environmental Information to the public means that metadata is also likely to help fulfil compliance with legal requirements to make information available.

Metadata is not unique to GIS, but because of the variety of datalayers in GIS and difficulty of keeping track of multiple data sources, it is often used by GIS analysts and technicians. The 'structural' elements of metadata can also help provide guidance about how to avoid the future misuse of data, for example, an understanding of the resolution of a digital spatial data will control the final accuracy of a projection.

Existing Standards

The generation of metadata pretty much occurs on an ad-hoc basis, although some organisations have developed this approach as part of a wider Information Policy. Some government agencies such as the Environment Agency and CEFAS are active in promoting the use of metadata by their officers. Furthermore, a variety of software has been developed to help automate and speed up the generation of metadata, such as Metagenie (see below). This includes GIS software such as ArcCatalog which supports GIS users in generating metadata. However, presently many practitioners in the coastal zone find it easier to identify and obtain datasets through internet searches or via personal telephone calls and it would be fair to say that there is not yet a well established practice of generating metadata to standards. [Appendix 1](#) provides an overview of these standards as they apply to the coast, and Appendix 4 provides a set of marine and coastal examples for records completed to the ISO 19115 and UK Gemini standards, which might act as a preliminary example to users

A Metadatabase for Geospatial Information the Severn Estuary

The descriptions of datasets within MDB need to be designed to cope with the different types of search conducted by a variety of users in the coastal zone. The Severn Estuary is a jurisdictionally complex area with 14 local authorities, 3 Environment Agency Regions, 3 Water Companies, several ports, 2 countryside agencies and 2 regional governments, all with their own data requirements and GIS systems.

This issue was identified by the Severn Estuary Partnership (SEP) in *A Strategy for the Severn Estuary* (2001) and the aim of the SEP has been to support the development of tools and techniques which assist in a more co-ordinated approach to information management to support decisions for planning and management on the Estuary. A survey of organisational holdings by the SEP revealed 3 major existing datasets which had aggregated much baseline spatial data relevant to the coastal zone:

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- Marine Aggregates Dredging and Constraints Study (Welsh Assembly Government)
 - Severn Estuary Shoreline Management Plan (Shoreline Management Group)
 - Data Holdings Survey (Environment Agency)

In addition a Spatial Metadata Survey by the Severn Estuary Partnership identified approximately 40 records, including GIS developed internally by the SEP. Metadata from these sources has been input in the first phase. A detailed data model and description of metadata input and query options is provided in [Appendix 2](#).

Options for Dissemination- Demand

It is unlikely that individuals will frequently need to access the metadatabase (based on the assumption that the requirement to find new datasets will only arise at certain phases within a project). However, the number of individuals with a potential interest in using the Metadatabase is high, including; consultants and businesses preparing reports and impact assessments; national, regional and local government officers and scientists responsible for a range of cross-cutting functions; and also possibly students preparing projects, or members of the public or public servants looking for general information. No other tool is available on an estuary-wide basis

Options for Dissemination- Operation

The Metadatabase is intended to make available information about a number of disparate data sources that have been developed and used by a variety of organisations, by providing a single window for accessing coastal metadata on the Severn Estuary. A *Memorandum of Understanding* has already been developed by members of the Severn Estuary Partnership GIS Forum that could be used to overcome blocks to data-exchange and facilitate the sharing of datasets. A quick browse of the contents of the metadatabase reveals that there are many opportunities for greater co-ordination of datasets between organisations.

Three basic options are outlined for the dissemination of the Metadatabase:

- A Standalone tool to be maintained by a willing key organisation or the Severn Estuary Partnership.
- An interactive, online tool.
- Embedding the Metadatabase as a node within a wider online service or information system.

These options are further outlined in [Appendix 3](#).

Links with wider Information Systems and Decision-makers

It is assessed that the maintenance and use of Metadatabase is likely to be more effective if it could be embedded within an existing service or as a node within a wider system. A number of options exist for this approach, dependent on the willingness of key partners to become involved and overcome existing challenges.

Environmental Record Centres around the Severn may wish to host the tool (although these centres are still to develop a coastal remit to their data holdings) Systems such as GIGateway offer an existing national node to which local nodes can be added (although the requirement will be for the metadata to be improved to UK Gemini standard); or other organisations with marine responsibilities may be willing to host

the tool (although this may bring constraints on providing the tool as public service). Ultimately the tool could be utilised as part of an estuary-wide information system, with analytical capabilities, which is able to deliver the data itself, as well as the underlying metadata used within the search process- this type of arrangement is likely to increase the involvement of interested organisations and provide incentive for the maintenance of the tool.

References

CEFAS (2005) *CoastMap News Bulletin 7*. CEFAS, Lowestoft

Ranganathan (1957) *The five laws of Library Science*. Blunt and Sons, Madras.

Rogers, A.P (2002) *An investigation into the acquisition and integration of data to assist coastal conservation management*. Unpublished MSc Thesis, University of Glamorgan, Pontypridd

Severn Estuary Partnership (2001) *A Strategy for the Severn Estuary*. SEP, Cardiff.

Appendix 1 Metadata Standards Overview

This section seeks to describe the existing metadata standards in use by those public, private and voluntary organisations with an interest in the management of the Severn Estuary. These particular standards are then related to the development of the Severn Estuary GIS Metadatabase (see Appendix 2)

1.1.1 UK Based: UK GEMINI (Geo-spatial Metadata Interoperability Initiative)/ Metagenie/ e-GMS.

The UK GEMINI Standard was launched in October 2004 and has been developed by a partnership including the Association for Geographic Information (AGI) and national and local government.

The profile is formed of 32 key elements (17 of which are mandatory) and is able to adopt elements, structures or rules for different user communities. The UK GEMINI profile will replace the *GIgateway Discovery Metadata Specifications* (the NGDF Standard) and is compliant with both ISO 19115 (*Geographic Information –Metadata*) and the national UK *e-Government Metadata Standard* (eGMS).

Metadata will be able to be quickly and automatically generated to the standard using a redeveloped version (v2.0) of the Metagenie tool. <http://www.gigateway.org.uk/metadata/metagenie.html>

e-GMS (e-Government Metadata Standard). The e-Government Metadata Standard lays down the elements, refinements and encoding schemes to be used by government officers when creating metadata for their information resources or when designing search systems for information systems. The e-GMS forms part of e-GIF. The e-GMS is required to ensure maximum consistency of metadata across public sector organisations.

Historical Development: The present standards have a long history tracing back to the development of two pioneer standards, The United States Geological Survey Federal Geographic Data Committee's (FGDC) Content Standard for Digital Geospatial Metadata (CSDGM), and the *Dublin Core* Metadata Standard, which provides a more basic set of records centred around 20 fields.

1.1.2 EU Spatial Data infrastructure: INSPIRE

The Infrastructure for Spatial Information in Europe (INSPIRE) is an EU project that intends to trigger the creation of a European Spatial Data Infrastructure (ESDI) that delivers an integrated spatial information service to users. The project is taking a step based approach to harmonising standards, build together existing portals at national and regional levels, and create data discovery tools. There are 17 themes to the components, of which Oceans and Coasts is one. The EC have recently submitted the project to the European Parliament as a draft directive (COM/2004/516), with implementation phase planned for 2009-2013. The project is managed by the EU Joint Research Centre and envisaged to support the development of environmental policy (<http://inspire.jrc.it/>)

1.1.3 International: ISO 19115/19139

ISO 19115 Geographic Information: Metadata – has been developed by the International Standards Organisation, a worldwide federation of national standards bodies, which has instituted a technical committee to develop definitions for metadata entities, metadata sections and metadata elements specifically for geographic datasets.

An associated standard, ISO 19139, defines the XML schema implementation for 19115 (this has not yet been completed as of January 2005). A range of other ISO19100 series are envisaged to provide additional definitions. The content part of the ISO standard contains 14 packages with 300 elements and 22 core metadata. Most of the elements are therefore optional, and the standard can be configured according to different ‘profiles’ to suit an organisation’s needs.

1.1.4 Coast Specific: EuroSION

The EuroSION Metadata Format has been developed as part of the *CoastBase* project. A standard for the coastal domain is required because geographic data relating to the coast have unique environmental elements, such as coast-specific types of geometric object being represented. The EuroSION standard is compliant with ISO 19115 and provides a Coast specific Thesaurus of keywords which can be used to classify datasets according to 6 key themes.

References:

UK Metadata www.gigateway.org.uk/

Coastal Metadata www.euroSION.org/

UK Multi-Agency Geographic Information System www.magic.gov.uk/

Appendix 2 Metadatabase for Geospatial Data on the Severn Estuary

This section of the report describes the methodology and rationale used in the development of a prototype Metadatabase, covering spatial data in the Severn Estuary, UK.

1.1 Key Elements

The metadatabase has been designed to capture the most basic information and allow update easily to more comprehensive standards. 10 Key fields were selected to create basic minimum record set for spatial datasets covering the Severn Estuary. In addition, the Responsible Party Field was linked to a separate table, containing contact information drawn from the Severn Estuary Partnership contacts database, so that those searching for data can contact the responsible party. All the fields were mapped both to the UK Gemini Standard and ISO19115 Standard so that the records can easily be expanded to be compliant with these standards (See Table 1)

Table 1 Fields within the Metadatabase

Field Name	Data Type	Description
SevernMetadata ID	AutoNumber	Unique Identifier for each record
Title	Text	"Title" Gemini element 1j/ISO19115 element 8
Responsible Party	Text	"Originator" Gemini element 10/"Responsible Party" ISO19115 element 10
Abstract	Memo	"Abstract" Gemini element 4/ISO 19115 element 16
Subject	Text	"Subject" Gemini element 5/"Identification.Keywords" ISO19115 element 53
Form	Text	"Data Format" Gemini element 21/ "Distribution Format" ISO19115 element 284
Function	Text	Keyword Classification of topic of data from Severn Estuary List: what would you use it for?
Spatial Coverage	Text	by geographic identifier
Temporal Coverage	Date/Time	"Date" Gemini element 5/"Temporal Extent" ISO19115 element 351(ISO 8601 definition)
Access Constraints	Yes/No	"Access Constraints" Gemini element 25/"Legal Constraint.Access" ISO19115 element 70
Use Constraints	Text	"Use Constraints" Gemini element 26/ "Legal Constraint.Use" ISO19115 element 71

1.1.1 Basic Properties of Information

The ten fields identified were selected on the basis of current best practice within information science. Figure 1 shows the five basic properties of information which are all represented in some way within the recordset. These five basic properties will provide a reasonably thorough introduction to any type of information, so that any user knows whether they would benefit from conducting their search further.

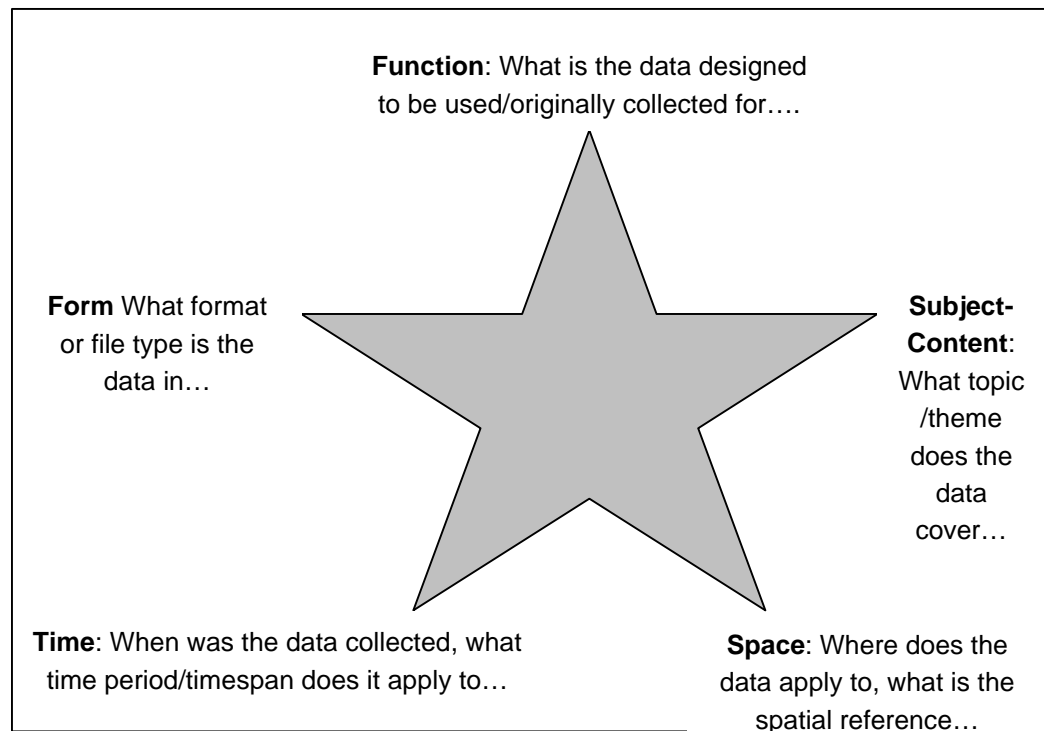


Figure 1. Five Basic properties of Information

Source: Stojanovic (Based on Ranganathan, 1957)

The Fields, *SevernMetadataID*, *Title* and *Abstract* identify the specific dataset or GIS layer (the ID field does so uniquely, to make sure that there cannot possibly be confusion between similar datasets). The first two fields are required for every input to the database. The Fields *Subject*, *Form*, *Function*, *Spatial Coverage* and *Temporal Coverage* answer the basic ‘what’, ‘where’ and ‘when’ questions about each dataset. Through the *Responsible Party* field, the user can link the dataset to ‘who’ the custodian is, and users may attempt to gain access to the dataset or pose further queries to the holder, on the basis of information shown in the *Access Constraints* and *Use Constraints* fields.

1.2 Metadata Input

From the perspective of someone creating a metadata record for the database, the completion of most fields is straightforward. The *SevernMetadataID* number is automatically generated, and the *Title* field should be the title held by the dataset within its original context. The other fields should be completed according to the definitions which are provided by the ISO 19115 and GEMINI Standards, which contain detailed instructions about the appropriate terms for each field. However, the *Subject* field from these standards does not really hold enough marine and coastal specific keywords, so the EUROSION Thesaurus may be used to provide examples of suitable coastal terms. Examples of four metadata records are provided in Appendix 1 of this report. In addition, the tool provides some assistance by utilising drop down menus with specifically ‘coastal’ classifications and terms, from which the user can select appropriate keywords.

1.3 Metadata Query

A number of simple options for interrogating the metadatabase have been developed, based on two types of information seeking behaviour:

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1. A User who wants to browse the dataset for discovery purposes, to find new sources on subjects or functions which interest them.
 2. A User who is seeking metadata about a specific, existing dataset which they are already aware of.

The results of the search show the key fields of interest and are able to be refined in terms of spatial or temporal variables.

By association, the user is able to find basic contact information (in terms of organisation contact details rather than individual data custodians). A further phase of development of the tool could refine the contact information available, subject to the agreement of contributing parties.

Appendix 3 Options for Dissemination

This section of the report provides an overview of the options for the dissemination and use of the finalised *Metadatabase for Geospatial information on the Severn Estuary*.

1.1 Standalone IT Tool

The metadatabase could be distributed as an MS Access file on CD-ROM and as an email attachment. This provides an easy, lo-tech solution to implementation which is likely to lower the burden of maintenance or queries. Furthermore, input updates and versions of the tool will be easy to control. However, the standalone solution presents a number of drawbacks including the dependence on users having MS Access Software and the distributed tool becoming out of date more rapidly than an online interactive version.

1.2 Web Enabled Tool

The Metadatabase could be hosted as an online active service via the Internet. Two common forms of technology are used to host online databases.

1.2.1 XML Schema

XML Stands for Extensible Markup Language, a development of html that allows the user to define their own tags, for example that can stand for fields from a metadata record: the different fields in the metadatabase can be recorded by XML. By Using HTML forms, a webpage can gather information from users and store it in a server's memory. An HTML form can send the information either as form parameters or as URL parameters. If the form's method attribute is set to POST, the browser includes the form's values in the body of the message sent to the server. If the form's method attribute is set to GET, the browser appends the form values to the URL specified in the action attribute and sends the information to the server. In this case, the metadatabase is stored as a giant online html file that can be easily queried.

1.2.2 PHP/ASP Online Database

PHP stands for Hypertext Preprocessor. PHP is an HTML-embedded scripting language. PHP and HTML are designed to interact: PHP can generate HTML, and HTML can pass information to PHP. It can be used to communicate information between a database and a web application, particularly by the use of forms.

Using a database to store content allows the separation of website's design from the content displayed to users. Instead of writing individual HTML files for every page, a single template can be written for the different kinds of information being presented. Using a database, new content to a website is provided by uploading content into a database and then retrieving that content dynamically in response to a user's request

Web pages can't directly access the data stored in a database. Instead, they interact with a **recordset**. A recordset is a subset of the information, or records, extracted from the database. This subset of information is extracted using a database **query**. A query is a search statement designed to find and extract specific information from a database. A SQL query can produce a recordset that includes only certain columns, only certain

records, or a combination of both. A recordset can also include all the records and columns of a database table.

Microsoft Active Server Pages (ASP) are also developed to communicate online with a database. Open database connectivity (ODBC) driver or an object linking and embedding database (OLE DB) are used to connect to the server. The driver or provider acts as an interpreter that lets the web application communicate with the database. (1) The connection is defined: A DSN is a name containing all the parameters needed to connect to a specific database using an ODBC driver

1.3 Node within Other Metadatabase or Service

It is assessed that the maintenance and use of Metadatabase is likely to be more effective if it could be embedded within an existing service or as a node within a wider system. A number of options exist for this approach, dependent on the willingness of key partners to become involved and overcome existing challenges.

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Appendix 4 Metadata Standards and Examples of Coastal Records

Gemini Field number	Element name	ISO Field Number	ISO Field	Obligation	Example from ISO Compliant GER DB	Example: from GIGateway	Severn Example- Fisheries Map	Severn Example 2- Recreational Map
					http://nokis.baw.de/iczm-data/HTMLView.jsp?setDocument~.doc_id=fitpk10796	AGI Cymru Environmental SAC datasets from CCW	Coastal Sea Angling Locations, Severn Estuary	Recreational Activities
		2	Metadata file identifier (MD_Metadata.fileIdentifier)	(O)	<i>npash55087</i>			
		3	Metadata language (MD_Metadata.language)	(C)	<i>German</i>		<i>English</i>	<i>English</i>
		4	Metadata character set (MD_Metadata.characterSet)	(C)	<i>UTF-8</i>		<i>Ascii</i>	<i>Ascii</i>
30	Date of update of metadata	9	Metadata date stamp (MD_Metadata.dateStamp)	(M)	<i>2004-10-19 (YYYY-MM-DD) 13:45:31 (hh:mm:ss)</i>	<i>2004-06-16</i>	<i>2005-05-30</i>	<i>2005-09-23</i>
31	Metadata standard name	10	Metadata standard name (MD_Metadata.metadataStandardName)	(O)	<i>ISO 19115</i>		<i>Gemini</i>	<i>Gemini</i>
32	Metadata standard version	11	Metadata standard version (MD_Metadata.metadataStandardVersion)	(O)	<i>DIS</i>		<i>1.0</i>	<i>1.0</i>
4	Abstract	25	Abstract describing the dataset (MD_Metadata > MD_DataIdentification.abstract)	(M)	<i>Dieser Datensatz entspricht einer Datenmenge aus dem Archiv Peildatenbank Küste</i>	<i>The EC Habitats and Species Directive came into effect in 1992 and its aim is to maintain a rich variety of wildlife by protecting</i>	<i>Point locations showing popular sea angling sites compiled from source information provided by sea angling clubs/associations</i>	<i>Polygons showing results of workshop consultation held May 2005. Polygons show areas where recreational</i>

						<p><i>vulnerable habitats, and the plants and animals they support. The Habitat Directive together with the 1979 Birds Directive will lead to the establishment of a series of sites throughout Europe that will be known as ' Natura 2000'. This represents the cream of European sites and will ensure their survival for future generations. The sites listed here are all Candidate status, that means, they have been to public consultation and the UK government are currently presenting them to the EC for recommendation.</i></p>	<p><i>around Severn Estuary</i></p>	<p><i>activities occur as indicated by stakeholders during workshop</i></p>
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9	Originator	29	Metadata point of contact (MD_Metadata.contact > CI_ResponsibleParty)	(M)	<i>Fachstelle der WSV für Informationstechnik</i>	<i>CCW</i>	<i>Severn Estuary Partnership</i>	<i>Severn Estuary Partnership</i>
29	Browse graphic	31						
19	Spatial representation type	37	Spatial representation type (MD_Metadata > MD_DataIdentification.spatial RepresentationType)	(O)	<i>vector</i>		<i>Vector</i>	<i>Vector</i>
3	Dataset language	39	Dataset language (MD_Metadata > MD_DataIdentification.langu age)	(M)	<i>German</i>		<i>English</i>	<i>English</i>
		40	Dataset character set (MD_Metadata > MD_DataIdentification.chara cterSet)	(C)	<i>UTF-8</i>		<i>Ascii</i>	<i>Ascii</i>
5	Topic category	41	Dataset topic category (MD_Metadata > MD_DataIdentification.topicC ategory)	(M)	<i>Blank!</i>	<i>Earth Cover/ Land Use Biota Oceans Environment</i>	<i>Oceans Society Biota</i>	<i>Oceans Society</i>
27	Additional information source	46				<i>contact Geographical Information Unit</i>		
6	Subject	53					<i>Recreation, Sport, Activities, Sea Angling, Fishing</i>	<i>Recreation, Sport, Activities, Sea Angling, Fishing</i>
18	Spatial resolution	61	Spatial resolution of the dataset (MD_Metadata > MD_DataIdentification.spatial Resolution >	(O)	<i>10000</i>	<i>1:2500</i>	-	

			MD_Resolution.equivalentScale or MD_Resolution.distance)					
25	Access constraint	70				<i>Legal</i>	<i>None</i>	<i>None</i>
26	Use constraints	71				<i>© Countryside Council for Wales. Normal restrictions apply</i>	<i>Intellectual Property Rights</i>	<i>Intellectual Property Rights</i>
10	Lineage	83	Lineage (MD_Metadata > DQ_DataQuality.lineage > LI_Lineage)	(0)	<i>Aufnahmefrequenz: 200-300 KH und Fahrtweise: Quer</i>		<i>Approximate locations identified by National Grid reference from anecdotal evidence. Associate attribute data recorded from anecdotal evidence of Angling Club officials</i>	<i>Polygon areas constructed from textual location descriptions. Areas are product of intersection of SPA boundary within 500m of coast (offshore and onshore)</i>
24	Frequency of update	143			<i>Continual</i>	<i>irregular</i>	<i>Not planned</i>	<i>Not planned</i>
17	Spatial reference system	187	Reference system (MD_Metadata > MD_ReferenceSystem)	(0)	<i>Pulkovo 1942/ GK4</i>	<i>British National Grid</i>	<i>National Grid of Great Britain</i>	<i>National Grid of Great Britain</i>
28	Online resource	277					<i>None</i>	<i>None</i>
23	Distributor	280				<i>GIU Data Manager</i>	<i>Severn Estuary Partnership</i>	<i>Severn Estuary Partnership</i>

21	Data format	284	Distribution format (MD_Metadata > MD_Distribution > MD_Format.name and MD_Format.version)	(O)	<i>Txt</i>	<i>MapInfo Tab</i>	<i>ESRI Shapefile</i>	<i>ESRI Shapefile</i>
22	Supply media	292				<i>paper optical</i>	<i>CdRom Hardcopy</i>	<i>CdRom Hardcopy</i>
		337/338	Additional extent information for the dataset (vertical and temporal) (MD_Metadata > MD_DataIdentification.extent > EX_Extent > EX_TemporalExtent or EX_VerticalExtent)	(O)	<i><height>-1419.0 - -615.0</height></i>			
11-14	Bounding Coordinates	343/348	Geographic location of the dataset (by four coordinates or by geographic identifier) (MD_Metadata > MD_DataIdentification.extent > EX_Extent > EX_GeographicExtent > EX_GeographicBoundingBox or EX_GeographicDescription)	(C)	<i>4456157.3</west-bounding-coordinate> <east-bounding-coordinate>4464376.4</east-bounding-coordinate> <north-bounding-coordinate>5994597.4</north-bounding-coordinate> <south-bounding-coordinate>5975232.1</i>	<i>53.443 51.392 -5.730 -2.454</i>	<i>-3.597800</west-bounding-coordinate> -2.214520 </east-bounding-coordinate> 51.877925</north-bounding-coordinate> 51.148154<south-bounding-coordinate></i>	<i>-3.597800</west-bounding-coordinate> -2.214520 </east-bounding-coordinate> 51.877925</north-bounding-coordinate> 51.148154<south-bounding-coordinate></i>
15	Extent	349					<i>England and Wales</i>	<i>England and Wales</i>

7	Date	351					<i>Compiled 2005</i>	
16	Vertical extent information	354					-	
1	Title	360	Dataset title (MD_Metadata > MD_DataIdentification.citation > CI_Citation.title)	(M)	<i>Peildatensatz: Ostsee von 2000 der Institution WSA Luebeck</i>	<i>Special Areas of Conservation</i>	<i>Coastal Sea Angling Locations, Severn Estuary</i>	<i>Coastal Recreation Activities, Severn Estuary</i>
2	Alternative title	361				<i>Sites (SAC)</i>	-	
8	Dataset reference date	362	Dataset reference date (MD_Metadata > MD_DataIdentification.citation > CI_Citation.date)	(M)	<i>2000-01-01 (YYYY-MM-DD)</i>		<i>2005-04-01</i>	<i>2005-04-01</i>
		367	Dataset responsible party (MD_Metadata > MD_DataIdentification.pointOfContact > CI_ResponsibleParty)	(O)	<i>Wasser- und Schifffahrtsamt Lübeck</i>		<i>Severn Estuary Partnership</i>	<i>Severn Estuary Partnership</i>
20	Presentation type	368				<i>map</i>	<i>Map</i>	<i>Map</i>
		396	On-line resource (MD_Metadata > MD_Distribution > MD_DigitalTransferOption.online > CI_OnlineResource)	(O)	http://www.wsa-luebeck.wsv.de		-	