

# Irish Spatial Data Infrastructure



## ISDI Metadata Profile

Version 1.2

Volume 3

XML Encoding Guidance

Department of Environment, Community  
And Local Government  
2013



Comhshaol, Pobal agus Rialtas Áitiúil  
Environment, Community and Local Government



## Purpose of this Document

The purpose of this document is to describe an agreed approach to the XML encoding of ISDI metadata for spatial data resources. The aim is to maximise interoperability between ISDI partner software solutions for spatial metadata publishing and to ensure technical compliance with the INSPIRE Directive Metadata Implementing Rules.

## Acknowledgements

The Department of Environment, Community and Local Government wishes to acknowledge the valuable contribution made by the Irish Spatial Data Exchange project (ISDE), in the design and publication of this ISDI Metadata Profile. The ISDE project, managed by the Marine Institute in conjunction with ISDE project partners, is recognised as Irish best practice in online sharing of environmental spatial data.

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## Revision history

Version	Description	Contributors	Date
1.2	Release version for Irish Metadata Profile version 1.2 update	Trevor Alcorn, Ozan Emem, Ali Robinson, Gareth John	20/03/2013

# Contents

<b>1</b>	<b>Overview .....</b>	<b>6</b>
1.1	Aim of document and intended audience .....	6
1.2	References .....	6
<b>2</b>	<b>ISDI Metadata Profile Schema requirements.....</b>	<b>8</b>
2.1	Schema set for ISDI Metadata .....	8
2.2	Validation of ISDI metadata for spatial data sets and data series.....	8
2.3	Validation of ISDI metadata for spatial data services .....	8
2.4	XML Schema and namespace declarations in Root Element .....	8
2.5	Use of null elements .....	9
2.6	Using codelists.....	9
2.7	Validation against INSPIRE Metadata Regulation specific constraints .....	9
2.8	ISDI Metadata records – XML formatting requirements.....	10
<b>3</b>	<b>ISDI Metadata Profile element encoding details .....</b>	<b>11</b>
3.1	ISDI Spatial Data set metadata encoding.....	11
3.1.1	Metadata header.....	11
3.1.2	Metadata Language .....	12
3.1.3	Metadata character set .....	12
3.1.4	Resource type.....	13
3.1.5	Metadata contact .....	13
3.1.6	Metadata date.....	15
3.1.7	Metadata standard name .....	15
3.1.8	Metadata standard version.....	15
3.1.9	Spatial reference system .....	16
3.1.10	Resource title.....	17
3.1.11	Resource alternate title .....	17
3.1.12	Date of publication .....	18

3.1.13	Date of creation .....	18
3.1.14	Date of last revision .....	19
3.1.15	Unique resource identifier .....	20
3.1.16	Resource abstract.....	21
3.1.17	Resource purpose .....	21
3.1.18	Resource status.....	22
3.1.19	Responsible party .....	22
3.1.20	Maintenance update and frequency .....	23
3.1.21	Descriptive keywords .....	24
3.1.22	Constraints related to access and use .....	25
3.1.23	Spatial representation type .....	27
3.1.24	Spatial resolution .....	27
3.1.25	Dataset language.....	28
3.1.26	Dataset character set.....	29
3.1.27	Dataset topic category .....	29
3.1.28	Geographic bounding box.....	30
3.1.29	Temporal extent.....	30
3.1.30	Distribution information and formats.....	31
3.1.31	Online Access section.....	33
3.1.32	Data quality.....	34
3.1.33	Conformity .....	35
<b>3.2</b>	<b>ISDI Spatial Data services metadata encoding.....</b>	<b>38</b>
3.2.1	Metadata header.....	38
3.2.2	Metadata Language .....	38
3.2.3	Metadata character set .....	39
3.2.4	Resource type.....	39
3.2.5	Metadata contact .....	40
3.2.6	Metadata date.....	41

3.2.7	Metadata standard name .....	42
3.2.8	Metadata standard version.....	42
3.2.9	Spatial reference system .....	42
3.2.10	Resource title.....	43
3.2.11	Resource alternate title .....	44
3.2.12	Date of publication .....	44
3.2.13	Date of creation .....	45
3.2.14	Date of last revision .....	46
3.2.15	Resource abstract.....	46
3.2.16	Responsible party .....	47
3.2.17	Descriptive keywords .....	48
3.2.18	Constraints related to access and use .....	49
3.2.19	Service type .....	50
3.2.20	Coupled resource section encoding .....	51
3.2.21	Distribution information and formats.....	52
3.2.22	Online access information.....	54
3.2.23	Data quality.....	56
3.2.24	Conformity .....	56

# 1 Overview

This document defines an ISO 19139:2006 compliant encoding for the ISDI Metadata Profile for ISO 19115:2003 and ISO 19119:2005. The ISDI Metadata Profile describes the following spatial data resource types:

- spatial data set;
- spatial data set series;
- spatial data service.

## 1.1 Aim of document and intended audience

The intended audience for this document are organisations who aim to develop ISDI/INSPIRE Metadata Profile compliant metadata catalogues -e.g. CSW 2.02 -and also ISDI Metadata Profile aware applications - e.g. Open Data catalogues such as CKAN.

The aim of this document is to ensure that the ISDI Metadata catalogues implemented by ISDI partner organisations will be based on an agreed common encoding approach and open standards (i.e. ISO 19115/19139/19119 and CSW 2.02). This will maximise interoperability between ISDI catalogues and ISDI spatial data service solutions.

This encoding guidance should be used in conjunction with the official ISDI Metadata Profile (version 1.2) documentation to ensure a full and clear understanding of ISDI Metadata element obligations and suggested ISDI styles.

## 1.2 References

- ISO 639-2, *Codes for the representation of names of languages — Part 2: Alpha-3 code.*
- ISO 3166-1, *Codes for the representation of names of countries and their subdivisions — Part 1: Country Codes.*
- ISO 8601:2000, *Data elements and interchange formats — Information interchange — Representation of dates and times.*
- ISO 8879, *Information processing — Text and office systems — Standard Generalized Markup Language (SGML).*
- ISO/IEC 10646-1, *Information technology — Universal Multiple-Octet Coded Character Set (UCS) — Part 1: Architecture and Basic Multilingual Plane.*
- ISO 19103:2005, *Geographic information — Conceptual schema language.*
- ISO 19106:2004, *Geographic information — Profiles.*
- ISO 19107:2003, *Geographic information — Spatial schema.*
- ISO 19108:2002, *Geographic information — Temporal schema.*
- ISO 19109:2005, *Geographic information — Rules for application schema.*
- ISO 19110:2005, *Geographic information — Methodology for feature cataloguing.*
- ISO 19111:2003, *Geographic information — Spatial referencing by coordinates.*
- ISO 19113:2002, *Geographic information — Quality principles.*
- ISO 19115:2005, *Geographic information — Metadata.*
- ISO 19118:2005, *Geographic information — Encoding.*
- ISO 19119:2005, *Geographic information — Services.*
- ISO/CD 19130, *Geographic information — Sensor and data models for imagery and gridded data.*
- ISO/CD TS 19139, *Geographic information — Metadata — XML schema implementation.*
- ISO/IEC 19501:2005, *Information technology – Open Distributed Processing – Unified.*
- Marine Community Profile of ISO 19115 – Australian Ocean Data Centre.
- INSPIRE Metadata Implementing Rules: Technical Guidelines based on EN ISO 19115 and EN ISO 19119 – v1.1

- INSPIRE Metadata Implementing Rules: Technical Guidelines based on EN ISO 19115 and EN ISO 19119 – v1.2
- UK Location Programme GEMINI 2 Encoding Guidance
- Centre for Ecology and Hydrology Information Gateway, Core Metadata Wiki.

## 2 ISDI Metadata Profile Schema requirements

This section provides guidance on how to validate ISDI Metadata Profile records against common ISO/OGC XML schemas and also INSPIRE specific constraints. This section introduces the minimum requirements for ISDI Metadata Profile record validation.

### 2.1 Schema set for ISDI Metadata

The ISDI Metadata Profile has been implemented using the following schema set:  
<http://schemas.opengis.net/iso/19139/20060504/>

### 2.2 Validation of ISDI metadata for spatial data sets and data series

Metadata for resources classified as spatial data sets and spatial data set series are validated against this schema:

<http://schemas.opengis.net/iso/19139/20060504/gmd/gmd.xsd>

### 2.3 Validation of ISDI metadata for spatial data services

Metadata for resources classified as spatial data sets and spatial data sets are validated against this schema:

<http://schemas.opengis.net/iso/19139/20060504/srv/srv.xsd>

### 2.4 XML Schema and namespace declarations in Root Element

The schemas and namespaces for spatial data resources are to be outlined in the Root Element MD\_Metadata as in the example below. This is the minimum requirement for an implementation of the ISDI Metadata Profile.

```
<gmd:MD_Metadata
  xmlns:gmd="http://www.isotc211.org/2005/gmd"
  xmlns:gml="http://www.opengis.net/gml"
  xmlns:srv="http://www.isotc211.org/2005/srv"
  xmlns:gmx="http://www.isotc211.org/2005/gmx"
  xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
  xmlns:gco="http://www.isotc211.org/2005/gco"
  xmlns:xlink="http://www.w3.org/1999/xlink"
  xsi:schemaLocation="http://www.isotc211.org/2005/gmd
  http://schemas.opengis.net/iso/19139/20060504/gmd/gmd.xsd
  http://www.isotc211.org/2005/srv
  http://schemas.opengis.net/iso/19139/20060504/srv/srv.xsd">
...
</gmd:MD_Metadata>
```



## 2.5 Use of null elements

Where optional elements in this profile are not filled in or in use, it is recommended to use a `nilReason` attribute explaining the omission, e.g.

```
<gmd:alternateTitle gco:nilReason="missing"></gmd:alternateTitle>
```

## 2.6 Using codelists

The ISDI Metadata Profile uses codelists to standardise the entry of values for certain metadata elements. The recommended ISO 19115 codelists to be used for ISDI metadata purposes may be referenced online at:

[http://standards.iso.org/ittf/PubliclyAvailableStandards/ISO\\_19139\\_Schemas/resources/codelist/ML\\_gmxCodelists.xml](http://standards.iso.org/ittf/PubliclyAvailableStandards/ISO_19139_Schemas/resources/codelist/ML_gmxCodelists.xml)

A hash symbol is appended to this base URL followed by the name of the codelist being referenced as in the example below:

```
http://standards.iso.org/ittf/PubliclyAvailableStandards/ISO_19139_Schemas/resources/Codelist/ML_gmxCodelists.xml#MD_ScopeCode" codeListValue="dataset">dataset</gmd:MD_ScopeCode>
```

**N.B.** For ISDI codelist implementation it is recommended that the human readable value, (i.e. `dataset`) should be the same as the XML attribute `codeListValue`. (i.e. `codeListValue="dataset">`). The full list of codelists used are documented in the appendices of the ISDI Metadata Profile documentation.

**N.B** The Resource Type element is an exception and references the basic gmx codelist at: [http://standards.iso.org/ittf/PubliclyAvailableStandards/ISO\\_19139\\_Schemas/resources/codelist/gmxCodelists.xml](http://standards.iso.org/ittf/PubliclyAvailableStandards/ISO_19139_Schemas/resources/codelist/gmxCodelists.xml)

## 2.7 Validation against the INSPIRE Metadata Regulation specific constraints

The ISDI Metadata Profile is designed to be INSPIRE compliant according to the INSPIRE Implementing Rules for metadata. The Commission (JRC) provide an INSPIRE metadata tester to test the INSPIRE metadata Implementing Rules *Specific Constraints*<sup>1</sup>. ISDI metadata resources must pass the rules in the INSPIRE metadata tester.

INSPIRE Geoportal Metadata Validator (and Web Service option)  
<http://inspire-geoportal.ec.europa.eu/validator2/>

Note that these INSPIRE validation rules may be changed over time by the JRC. A change log for the on-line tester and the validation rules is available here:

<http://inspire-geoportal.ec.europa.eu/validator2/changes.xml>

---

<sup>1</sup> INSPIRE Metadata Implementing Rules: Technical Guidelines based on EN ISO 19115 and EN ISO 19119 (Version 1.2)

[http://inspire.jrc.ec.europa.eu/documents/Metadata/INSPIRE\\_MD\\_IR\\_and\\_ISO\\_v1\\_2\\_20100616.pdf](http://inspire.jrc.ec.europa.eu/documents/Metadata/INSPIRE_MD_IR_and_ISO_v1_2_20100616.pdf)

## 2.8 ISDI Metadata records – XML formatting requirements

- a) ISDI metadata record XML files must begin with an XML declaration and must also be encoded in UTF-8 as below:

```
<?xml version="1.0" encoding="UTF-8"?>
```

- b) The Root Element for the metadata record and the declaration of validating namespaces must be:

```
<gmd:MD_Metadata/>
```

- c) ISDI metadata record XML files must be valid against the schemas outlined in this encoding guidance.
- d) ISDI metadata record XML file elements must be specified in the order prescribed in the referenced XSD files.
- e) ISDI metadata record XML files must follow the encoding and xpaths outlined in this document,
- f) ISDI metadata record XML files must validate against the INSPIRE metadata tester hosted by the EU Commission.
- g) ISDI metadata record XML files must be well-formed with opening and closing XML tags that are directly referenced to the namespaces declared in the root element. In-line declaration of namespace locations for elements outside of the root element should be avoided.

### 3 ISDI Metadata Profile element encoding details

The following sections of this document detail the recommended encoding approach for ISDI spatial data resources. The encoding details are broken down into two separate sections to reflect the ISDI Metadata Profile documentation:

- Spatial data set encoding (and spatial data series)
- Spatial data service encoding

In this document, the recommended encoding for each element and codelist locations are displayed as XML fragments. The “...” ellipsis is used to denote an area of omission relevant to the explanatory code fragment. Full examples of compliant ISDI Metadata XML records for both types of spatial data resources will be published and maintained along with the encoding guidance on the Department of Environment, Community and Local Government website.

#### 3.1 ISDI Spatial Data set metadata encoding

The elements below are given in the order they are detailed in the ISDI Metadata Profile Documentation<sup>2</sup>:

##### 3.1.1 Metadata header

ISDI Metadata Element Name	Note
Metadata header	This is the Root Element <gmd:MD_Metadata > of an ISDI metadata document. The validating namespaces and schema should be declared in-line here. ISDI standardises the namespaces for both ISDI data sets and services for convenience.

##### Sample Encoding:

```
<?xml version="1.0" encoding="UTF-8"?>
```

```
<gmd:MD_Metadata
```

```
  xmlns:gmd="http://www.isotc211.org/2005/gmd"  
  xmlns:gml="http://www.opengis.net/gml"
```

---

<sup>2</sup> ISDI Metadata Profile for Spatial Data Sets and Spatial Data Series version 1.2.

<http://www.environ.ie/en/Publications/DevelopmentandHousing/Planning/>

```

xmlns:srv="http://www.isotc211.org/2005/srv"
xmlns:gmx="http://www.isotc211.org/2005/gmx"
xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
xmlns:gco="http://www.isotc211.org/2005/gco"
xmlns:xlink="http://www.w3.org/1999/xlink"
xsi:schemaLocation="http://www.isotc211.org/2005/gmd
http://schemas.opengis.net/iso/19139/20060504/gmd/gmd.xsd
http://www.isotc211.org/2005/srv
http://schemas.opengis.net/iso/19139/20060504/srv/srv.xsd">

```

```

...
</gmd:MD_Metadata>

```

### 3.1.2 Metadata language

ISDI Metadata Element Name	Note
Metadata language	Entered value is sourced from the <b>[MD_Language]</b> codelist (See ISO/TS 19139) based on the three letter codes of ISO 639-2. E.g. “eng” or “gle”.

#### Sample Encoding:

```

<gmd:MD_Metadata>
...
  <gmd:language>
    <gmd:LanguageCode
codeList="http://standards.iso.org/ittf/PubliclyAvailableStandards/ISO_19139_Schemas/resources/codelist/ML_g
mxCodlists.xml#LanguageCode" codeListValue="eng">eng</gmd:LanguageCode>
    </gmd:language>
...
</gmd:MD_Metadata>

```

### 3.1.3 Metadata character set

ISDI Metadata Element Name	Note
Metadata character set	This element details the Character set that the metadata information uses. The ISDI Metadata Profile uses “UTF-8” as a default.  The value is sourced from the <b>[MD_CharacterSetCode]</b> codelist.

#### Sample encoding:

```

<gmd:MD_Metadata>
...
  <gmd:characterSet>
    <gmd:MD_CharacterSetCode codeList="
http://standards.iso.org/ittf/PubliclyAvailableStandards/ISO_19139_Schemas/resources/codelist/ML_gm
xCodlists.xml#MD_CharacterSetCode" codeListValue="utf8">utf8</gmd:MD_CharacterSetCode>
    </gmd:characterSet>
...
</gmd:MD_Metadata>

```

### 3.1.4 Resource type

ISDI Metadata Element Name	Note
Resource type	This defines the type of ISDI resource being described by the metadata record: spatial data set; spatial data set series; spatial data service. The value is sourced from the <b>[MD_ScopeCode]</b> codelist.

Sample encoding:

```
<gmd:MD_Metadata>
...
  <gmd:hierarchyLevel>
    <gmd:MD_ScopeCode
codeList="http://standards.iso.org/ittf/PubliclyAvailableStandards/ISO_19139_Schemas/resources/codelist/gmxC
odelists.xml#MD_ScopeCode" codeListValue="dataset">dataset</gmd:MD_ScopeCode>
  </gmd:hierarchyLevel>
...
</gmd:MD_Metadata>
```

### 3.1.5 Metadata contact

ISDI Metadata Element Name	Note
Metadata contact	<p>This metadata section contains elements and properties that define the Point of Contact for the metadata record. This section is described by child elements at the following xpath:</p> <p>/gmd:MD_Metadata/gmd:contact/gmd:CI_ResponsibleParty</p> <p><b>N.B.</b> For INSPIRE metadata compliance:</p> <ul style="list-style-type: none"> <li>an email address is mandated at: <p>/gmd:MD_Metadata/gmd:contact/gmd:CI_ResponsibleParty/gmd:contactInfo/gmd:CI_Contact/gmd:address/gmd:CI_Address/gmd:electronicMailAddress</p> </li> <li>an organisation is mandated at: <p>/gmd:MD_Metadata/gmd:contact/gmd:CI_ResponsibleParty/gmd:organisationName</p> </li> <li>a role code value of 'pointOfContact' is mandated at: <p>/gmd:MD_Metadata/gmd:contact/gmd:CI_ResponsibleParty/gmd:role/gmd:CI_RoleCode</p> </li> </ul>

Sample encoding:

```
<gmd:MD_Metadata>
...
  <gmd:contact>
```

```

<gmd:CI_ResponsibleParty>
  <gmd:organisationName>
    <gco:CharacterString>National Parks and Wildlife</gco:CharacterString>
  </gmd:organisationName>
  <gmd:positionName>
    <gco:CharacterString>Data manager</gco:CharacterString>
  </gmd:positionName>
  <gmd:contactInfo>
    <gmd:CI_Contact>
      <gmd:phone>
        <gmd:CI_Telephone>
          <gmd:voice>
            <gco:CharacterString>
              +353-01-555555
            </gco:CharacterString>
          </gmd:voice>
          <gmd:facsimile>
            <gco:CharacterString>
              +353-01-555556
            </gco:CharacterString>
          </gmd:facsimile>
        </gmd:CI_Telephone>
      </gmd:phone>
      <gmd:address>
        <gmd:CI_Address>
          <gmd:deliveryPoint>
            <gco:CharacterString>
              Building name
            </gco:CharacterString>
          </gmd:deliveryPoint>
          <gmd:city>
            <gco:CharacterString>
              Town name
            </gco:CharacterString>
          </gmd:city>
          <gmd:administrativeArea>
            <gco:CharacterString>
              Area name
            </gco:CharacterString>
          </gmd:administrativeArea>
          <gmd:postalCode>
            <gco:CharacterString>
              Postal code
            </gco:CharacterString>
          </gmd:postalCode>
          <gmd:country>
            <gco:CharacterString>
              Ireland
            </gco:CharacterString>
          </gmd:country>
          <gmd:electronicMailAddress>
            <gco:CharacterString>
              joebloggs@organisation.ie
            </gco:CharacterString>
          </gmd:electronicMailAddress>
        </gmd:CI_Address>
      </gmd:address>
    </gmd:CI_Contact>
  </gmd:contactInfo>
  <gmd:role>
    <gmd:CI_RoleCode
      codeList="http://standards.iso.org/ittf/PubliclyAvailableStandards/ISO_19139_Schemas/resources/codelist/gmxC
      odelists.xml#CI_RoleCode" codeListValue="pointOfContact">pointOfContact</gmd:CI_RoleCode>
    </gmd:role>
  </gmd:CI_ResponsibleParty>
</gmd:contact>

```

...

</gmd:MD\_Metadata>

### 3.1.6 Metadata date

ISDI Metadata Element Name	Note
Metadata date	It is recommended to use the <gco:DateTime> data type to describe this element.

Sample encoding:

```
<gmd:MD_Metadata>
...
  <gmd:dateStamp>
    <gco:DateTime>2010-04-12T16:21:32</gco:DateTime>
  </gmd:dateStamp>
...
</gmd:MD_Metadata>
```

### 3.1.7 Metadata standard name

ISDI Metadata Element Name	Note
Metadata standard name	It is recommended that the following standard text is to be entered in ISDI metadata templates: "ISDI Metadata Profile"

Sample encoding:

```
<gmd:MD_Metadata>
...
  <gmd:metadataStandardName>
    <gco:CharacterString> ISDI Metadata Profile</gco:CharacterString>
  </gmd:metadataStandardName>
...
</gmd:MD_Metadata>
```

### 3.1.8 Metadata standard version

ISDI Metadata Element Name	Note
Metadata standard version	It is recommended that this standard text be entered in ISDI metadata templates for this element: "1.2"

Sample encoding:

```
<gmd:MD_Metadata>
...
```

```

    <gmd:metadataStandardVersion>
      <gco:CharacterString>1.2</gco:CharacterString>
    </gmd:metadataStandardVersion>
  ...
</gmd:MD_Metadata>

```

### 3.1.9 Spatial reference system

ISDI Metadata Element Name	Note
Spatial reference system	<p>It is recommended to reference the relevant EPSG Geodetic Parameter Data set through the unique EPSG URL (URI), e.g.</p> <p><a href="http://www.opengis.net/def/crs/EPSSG/0/2157">http://www.opengis.net/def/crs/EPSSG/0/2157</a></p> <p>This maybe referenced in XML through a combination of the &lt;gmd:code&gt; and &lt;gmd:codespace&gt; elements as per the sample encoding implementation below for Irish Transverse Mercator.</p>

#### Sample encoding:

```

<gmd:MD_Metadata>
  ...
  <gmd:referenceSystemInfo>
    <gmd:MD_ReferenceSystem>
      <gmd:referenceSystemIdentifier>
        <gmd:RS_Identifier>
          <gmd:authority>
            <gmd:CI_Citation>
              <gmd:title>
                <gco:CharacterString>EPSG Geodetic
                Parameter
                Dataset</gco:CharacterString>
              </gmd:title>
              <gmd:date>
                <gmd:CI_Date>
                  <gmd:date>
                    <gco:Date>2009-11-25</gco:Date>
                  </gmd:date>
                </gmd:CI_Date>
              </gmd:date>
            </gmd:CI_Citation>
          </gmd:authority>
          <gmd:code>
            <gco:CharacterString>2157</gco:CharacterString>
          </gmd:code>
          <gmd:codeSpace>
            <gco:CharacterString>
            http://www.opengis.net/def/crs/EPSSG/0/
            </gco:CharacterString>
          </gmd:codeSpace>
        </gmd:RS_Identifier>
      </gmd:referenceSystemIdentifier>
    </gmd:MD_ReferenceSystem>
  </gmd:referenceSystemInfo>
  ...

```



</gmd:MD\_Metadata>

### 3.1.10 Resource title

ISDI Metadata Element Name	Note
Resource title	A name by which the resource is known and easily identified. Abbreviation of content should be avoided.

#### Sample Encoding:

```
<gmd:MD_Metadata>
  <gmd:identificationInfo>
    <gmd:MD_DataIdentification>
      <gmd:citation>
        <gmd:CI_Citation>
          <gmd:title>
            <gco:CharacterString>Special Areas of
Conservation</gco:CharacterString>
          </gmd:title>
        </gmd:CI_Citation>
      </gmd:citation>
    </gmd:MD_DataIdentification>
  </gmd:identificationInfo>
  ...
</gmd:MD_Metadata>
```

### 3.1.11 Resource alternate title

ISDI Metadata Element Name	Note
Resource alternate title	Alternate names or languages by which the resource is known. Abbreviations or acronyms may also be detailed here.

#### Sample Encoding:

```
<gmd:MD_Metadata>
...
  <gmd:identificationInfo>
    <gmd:MD_DataIdentification>
      <gmd:citation>
        <gmd:CI_Citation>
          <gmd:alternateTitle>
            <gco:CharacterString>sac</gco:CharacterString>
          </gmd:alternateTitle>
        </gmd:CI_Citation>
      </gmd:citation>
    </gmd:MD_DataIdentification>
  </gmd:identificationInfo>
  ...
</gmd:MD_Metadata>
```

### 3.1.12 Date of publication

ISDI Metadata Element Name	Note
Date of publication	The <gco:Date> or <gco:DateTime> data types can be used to describe this element.

Sample encoding:

```

<gmd:MD_Metadata>
...
  <gmd:identificationInfo>
    <gmd:MD_DataIdentification>
      <gmd:citation>
        <gmd:CI_Citation>
          <gmd:date>
            <gmd:CI_Date>
              <gmd:date>
                <gco:DateTime>
                  2010-08-21T00:00:00
                </gco:DateTime>
              </gmd:date>
            <gmd:dateType>
              <gmd:CI_DateTypeCode
codeList="http://standards.iso.org/ittf/PubliclyAvailableStandards/ISO_19139_Schemas/resources/codelist/ML_g
mxCodelists.xml#CI_DateTypeCode" codeListValue="publication">publication</gmd:CI_DateTypeCode>
              </gmd:CI_DateTypeCode>
            </gmd:dateType>
          </gmd:CI_Date>
        </gmd:date>
      </gmd:citation>
    </gmd:MD_DataIdentification>
  </gmd:identificationInfo>
...
</gmd:MD_Metadata>

```

### 3.1.13 Date of creation

ISDI Metadata Element Name	Note
Date of creation	The <gco:Date> or <gco:DateTime> data types can be used to describe this element.

Sample encoding:

```

<gmd:MD_Metadata>
...
  <gmd:identificationInfo>
    <gmd:MD_DataIdentification>
      <gmd:citation>
        <gmd:CI_Citation>
          <gmd:date>
            <gmd:CI_Date>
              <gmd:date>
                <gco:DateTime>

```

```

                2010-08-21T00:00:00
                </gco:DateTime>
            </gmd:date>
            <gmd:dateType>
                <gmd:CI_DateTypeCode
codeList="http://standards.iso.org/ittf/PubliclyAvailableStandards/ISO_19139_Schemas/resources/codelist/ML_g
mxCodelists.xml#CI_DateTypeCode" codeListValue="creation">creation</gmd:CI_DateTypeCode>
                </gmd:dateType>
            </gmd:CI_Date>
        </gmd:date>
        <gmd:date/>
        <gmd:date/>
    </gmd:CI_Citation>
</gmd:citation>
</gmd:MD_DataIdentification>
</gmd:identificationInfo>
...
</gmd:MD_Metadata>

```

### 3.1.14 Date of last revision

ISDI Metadata Element Name	Note
Date of last revision	The <gco:Date> or <gco:DateTime> data types can be used to describe this element.

#### Sample encoding:

```

<gmd:MD_Metadata>
...
    <gmd:identificationInfo>
        <gmd:MD_DataIdentification>
            <gmd:citation>
                <gmd:CI_Citation>
                    <gmd:date>
                        <gmd:CI_Date>
                            <gmd:date>
                                <gco:DateTime>
                                    2010-08-21T00:00:00
                                </gco:DateTime>
                            </gmd:date>
                            <gmd:dateType>
                                <gmd:CI_DateTypeCode
codeList="http://standards.iso.org/ittf/PubliclyAvailableStandards/ISO_19139_Schemas/resources/codelist/ML_g
mxCodelists.xml#CI_DateTypeCode" codeListValue="revision">revision</gmd:CI_DateTypeCode>
                                </gmd:dateType>
                            </gmd:CI_Date>
                        </gmd:date>
                    </gmd:date/>
                    <gmd:date/>
                </gmd:CI_Citation>
            </gmd:citation>
        </gmd:MD_DataIdentification>
    </gmd:identificationInfo>
...
</gmd:MD_Metadata>

```

### 3.1.15 Unique resource identifier

ISDI Metadata Element Name	Note
Unique resource identifier	<p>There are two acceptable approaches to encoding unique resource identifiers for ISDI spatial data resources:</p> <ol style="list-style-type: none"> <li>1. Use a combination of a &lt;gmd:codepace&gt; element (URL namespace) and a value (with no spaces and only HTML compatible characters) in the &lt;gmd:code&gt;</li> <li>2. Use only &lt;gmd:code&gt; by populating it with a UUID value. (UUID generators are available on the internet, e.g.</li> </ol>

#### 1. Sample encoding:

```

<gmd:MD_Metadata>
...
  <gmd:identificationInfo>
    <gmd:MD_DataIdentification>
      <gmd:citation>
        <gmd:CI_Citation>
          <gmd:identifier>
            <gmd:RS_Identifier>
              <gmd:code>
                <gco:CharacterString>
                  special-area-of-conservation
                </gco:CharacterString>
              </gmd:code>
            <gmd:codeSpace>
              <gco:CharacterString>
                http://inspire.environ.ie/dataset/
              </gco:CharacterString>
            </gmd:codeSpace>
          </gmd:RS_Identifier>
        </gmd:identifier>
      </gmd:CI_Citation>
    </gmd:citation>
  </gmd:MD_DataIdentification>
</gmd:identificationInfo>
...
</gmd:MD_Metadata>

```

#### 2. Sample encoding:

```

<gmd:MD_Metadata>
...
  <gmd:identificationInfo>
    <gmd:MD_DataIdentification>
      <gmd:citation>
        <gmd:CI_Citation>
          <gmd:identifier>
            <gmd:RS_Identifier>
              <gmd:code>
                <gco:CharacterString>
                  7d51ae50-63bd-11e2-bcfd-0800200c9a66
                </gco:CharacterString>
              </gmd:code>
            </gmd:code>
          </gmd:RS_Identifier>
        </gmd:identifier>
      </gmd:CI_Citation>
    </gmd:citation>
  </gmd:MD_DataIdentification>
</gmd:identificationInfo>
...
</gmd:MD_Metadata>

```

```

</gmd:codeSpace gco:nilReason="missing"/>
    </gmd:RS_Identifier>
  </gmd:identifier>
</gmd:CI_Citation>
</gmd:citation>
</gmd:MD_DataIdentification>
</gmd:identificationInfo>
...
</gmd:MD_Metadata>

```

### 3.1.16 Resource abstract

ISDI Metadata Element Name	Note
Resource abstract	Free text narrative of 50-200 words. This may cover topics such as a description of the contents, legislative background, project context, data quality, level of completion etc.

```

<gmd:MD_Metadata>
...
  <gmd:identificationInfo>
    <gmd:MD_DataIdentification>
      <gmd:abstract>
        <gco:CharacterString>These are prime wildlife conservation areas in the
country, considered to be important on a European as well as Irish level. Most Special Areas of Conservation
(SACs) are in the countryside, although a few sites reach into town or city landscapes, such as Dublin Bay and
Cork Harbour. This is a national data set.
        </gco:CharacterString>
      </gmd:abstract>
    </gmd:MD_DataIdentification>
  </gmd:identificationInfo>
...
</gmd:MD_Metadata>

```

### 3.1.17 Resource purpose

ISDI Metadata Element Name	Note
Resource purpose	Free text narrative of approximately 20 words. Summarise the intentions with which the resource was developed.

Sample encoding:

```

<gmd:MD_Metadata>
...
  <gmd:identificationInfo>
    <gmd:MD_DataIdentification>
      <gmd:purpose>
        <gco:CharacterString>
          To report on and manage Natura 2000 SAC designations within the Republic
of Ireland.
        </gco:CharacterString>
      </gmd:purpose>
    </gmd:MD_DataIdentification>

```

```

    </gmd:identificationInfo>
...
</gmd:MD_Metadata>

```

### 3.1.18 Resource status

ISDI Metadata Element Name	Note
Resource status	Entered value is sourced from <b>[MD_ProgressCode]</b> codelist.

Sample encoding:

```

<gmd:MD_Metadata>
...
  <gmd:identificationInfo>
    <gmd:MD_DataIdentification>
      <gmd:status>
        <gmd:MD_ProgressCode
codeList="http://standards.iso.org/ittf/PubliclyAvailableStandards/ISO_19139_Schemas/resources/codelist/gmxC
odelists.xml#MD_ProgressCode" codeListValue="onGoing">onGoing</gmd:MD_ProgressCode>
        </gmd:status>
      </gmd:MD_DataIdentification>
    </gmd:identificationInfo>
...
</gmd:MD_Metadata>

```

### 3.1.19 Responsible party

ISDI Metadata Element Name	Note
Responsible party	Contact details of the party responsible for the spatial data resource. The minimum requirement for this section is: an organisation name, a contact email address, and a role code.

Sample encoding:

```

<gmd:MD_Metadata>
...
  <gmd:identificationInfo>
    <gmd:MD_DataIdentification>
      <gmd:pointOfContact>
        <gmd:CI_ResponsibleParty>
          <gmd:organisationName>
            <gco:CharacterString>
              National Parks and Wildlife Service
            </gco:CharacterString>
          </gmd:organisationName>
          <gmd:positionName>
            <gco:CharacterString>
              Data Manager
            </gco:CharacterString>
          </gmd:positionName>
          <gmd:contactInfo>
            <gmd:CI_Contact>
              <gmd:phone>

```

```

        <gmd:CI_Telephone>
        <gmd:voice gco:nilReason="missing"/>
    <gmd:facsimile gco:nilReason="missing"/>
    </gmd:CI_Telephone>
</gmd:phone>
<gmd:address>
    <gmd:CI_Address>
        <gmd:deliveryPoint gco:nilReason="missing"/>
        <gmd:city gco:nilReason="missing"/>
    <gmd:administrativeArea gco:nilReason="missing"/>
    <gmd:postalCode gco:nilReason="missing"/>
    <gmd:country gco:nilReason="missing"/>
    <gmd:electronicMailAddress>
        <gco:CharacterString>
            natureconservation@ahg.gov.ie
        </gco:CharacterString>
    </gmd:electronicMailAddress>
    </gmd:CI_Address>
</gmd:address>
</gmd:CI_Contact>
</gmd:contactInfo>
<gmd:role>
    <gmd:CI_RoleCode
codeList="http://standards.iso.org/ittf/PubliclyAvailableStandards/ISO_19139_Schemas/resources/codelist/gmxC
odelists.xml#CI_RoleCode" codeListValue="distributor">distributor</gmd:CI_RoleCode>
    </gmd:role>
    </gmd:CI_ResponsibleParty>
</gmd:pointOfContact>
</gmd:MD_DataIdentification>
</gmd:identificationInfo>
...
</gmd:MD_Metadata>

```

### 3.1.20 Maintenance update and frequency

ISDI Metadata Element Name	Note
Maintenance update and frequency	Entered value is sourced from [MD_FrequencyCode] codelist.

#### Sample encoding:

```

<gmd:MD_Metadata>
...
    <gmd:identificationInfo>
        <gmd:MD_DataIdentification>
            <gmd:resourceMaintenance>
                <gmd:MD_MaintenanceInformation>
                    <gmd:maintenanceAndUpdateFrequency>
                        <gmd:MD_MaintenanceFrequencyCode
codeList="http://standards.iso.org/ittf/PubliclyAvailableStandards/ISO_19139_Schemas/resources/codelist/gmxC
odelists.xml#MD_MaintenanceFrequencyCode"
codeListValue="asNeeded">asNeeded</gmd:MD_MaintenanceFrequencyCode>
                        </gmd:maintenanceAndUpdateFrequency>
                    </gmd:MD_MaintenanceInformation>
                </gmd:resourceMaintenance>
            </gmd:MD_DataIdentification>
        </gmd:identificationInfo>
    ...
</gmd:MD_Metadata>

```

### 3.1.21 Descriptive keywords

ISDI Metadata Element Name	Note
Descriptive keywords	<p>INSPIRE keywords are keyword values, which in ISO is referred to as “Keyword” and a reference to a controlled vocabulary known as a “thesaurus”. The INSPIRE Implementing Rules for metadata mandate the presence of at least <b>one</b> keyword.</p> <p>For a spatial data set or spatial data set series the keyword shall describe the relevant INSPIRE spatial data theme (as defined by Annex I, II, and III of the Directive) originating from the general environmental multilingual GEMET thesaurus. The 34 INSPIRE Spatial Data Themes are available from GEMET – INSPIRE themes, version 1.0 thesaurus: <a href="http://www.eionet.europa.eu/gemet/inspire_themes">http://www.eionet.europa.eu/gemet/inspire_themes</a></p> <p>In addition, to the minimum INSPIRE Spatial Data Theme keyword requirements other keywords from the GEMET – Concepts Version 2.4 thesaurus can be provided<sup>3</sup>. A facility to search this thesaurus is available for standard ISO Theme<sup>4</sup>, Place<sup>5</sup>, Temporal<sup>6</sup>, Stratum<sup>7</sup>, or Discipline<sup>8</sup> keyword types. The ISDI “data set” Metadata Profile cites the GEMET Thesaurus Concepts thesaurus for consistency of thesaurus source with the INSPIRE Spatial Data Theme mandatory requirement. However, other thesauri can be used in the instance. For example,</p> <ul style="list-style-type: none"> <li>▪ British Oceanographic Data Centre Vocabulary Server. <a href="https://www.bodc.ac.uk/data/codes_and_formats/parameter_codes">https://www.bodc.ac.uk/data/codes_and_formats/parameter_codes</a></li> <li>▪ Geological multilingual Dictionary services [IFREMER] <a href="http://srvgeosciml.brgm.fr/eXist2010/brgm/1GEclient.htm">http://srvgeosciml.brgm.fr/eXist2010/brgm/1GEclient.htm</a></li> </ul> <p>Each keyword may also be optionally attributed with a Keyword Type classification value from the optional ISO MD_KeywordTypeCode codelist.</p>

Sample encoding:

```

<gmd:MD_Metadata>
...
  <gmd:identificationInfo>
    <gmd:MD_DataIdentification>
      <gmd:descriptiveKeywords>
        <gmd:MD_Keywords>

```

<sup>3</sup> INSPIRE allows for reference to any chosen Thesaurus as long as the full reference and reference date are included.

<sup>4</sup> Theme – Identify Subjects or Topics.

<sup>5</sup> Place – Geographic locations.

<sup>6</sup> Temporal – Specific periods in time i.e. 20<sup>th</sup> Century.

<sup>7</sup> Stratum – Layers in the environment.

<sup>8</sup> Discipline – Branches of instruction or learning.



```

        <gmd:keyword>
            <gco:CharacterString>
                Protected sites
            </gco:CharacterString>
        </gmd:keyword>
    </gmd:type>
    <gmd:MD_KeywordTypeCode
codeList="http://standards.iso.org/ittf/PubliclyAvailableStandards/ISO_19139_Schemas/resources/codelist/ML_g
mxCodelists.xml#MD_KeywordTypeCode" codeListValue="theme">theme</gmd:MD_KeywordTypeCode>
    </gmd:type>
    <gmd:thesaurusName>
        <gmd:CI_Citation>
            <gmd:title>
                <gco:CharacterString>
                    GEMET INSPIRE Themes
                </gco:CharacterString>
            </gmd:title>
            <gmd:alternateTitle>
                <gco:CharacterString>
                    GEMET
                </gco:CharacterString>
            </gmd:alternateTitle>
            <gmd:date>
                <gmd:CI_Date>
                    <gmd:date>
                        <gco>Date>
                            2008-12-05
                        </gco>Date>
                    </gmd:date>
                </gmd:CI_Date>
            </gmd:date>
        </gmd:CI_Citation>
    </gmd:thesaurusName>
    </gmd:MD_Keywords>
</gmd:descriptiveKeywords>
</gmd:MD_DataIdentification>
</gmd:identificationInfo>
...
</gmd:MD_Metadata>

```

### 3.1.22 Constraints related to access and use

ISDI Metadata Element Name	Note
Constraints related to access and use	<p>This encoding is best explained for the two separate INSPIRE cases for this element:</p> <p><b>1. Conditions applying to access and use</b></p> <p>This metadata element defines the conditions for access and use of spatial data sets and services, and where applicable, corresponding fees as required by Article 5(2)(b) and Article 11(2)(f) of Directive 2007/2/EC.</p> <p>The value domain of this metadata element is free text. The element must have values. If no conditions apply to the access and use of the resource, “no conditions apply” shall be used. If conditions are unknown, “conditions</p>

	<p>unknown” shall be used. This element shall also provide information on any fees necessary to access and use the resource, if applicable, or refer to a uniform resource locator (URL) where information on fees is available.<sup>9</sup></p> <p style="text-align: center;"><b>2. Limitations on public access</b></p> <p>When Member States limit public access to spatial data sets and spatial data services under Article 13 of Directive 2007/2/EC, this metadata element shall provide information on the limitations and the reasons for them. If there are no limitations on public access, this metadata element shall indicate that fact. E.g. “no limitations”</p> <p>The value domain of this metadata element is free text.</p>
--	--

Sample encoding:

```

<gmd:MD_Metadata>
...
  <gmd:identificationInfo>
    <gmd:MD_DataIdentification>
      <gmd:resourceConstraints>
        <gmd:MD_Constraints>
          <gmd:useLimitation>
            <gco:CharacterString>
              no conditions apply
            </gco:CharacterString>
          </gmd:useLimitation>
        </gmd:MD_Constraints>
      </gmd:resourceConstraints>
      <gmd:resourceConstraints>
        <gmd:MD_LegalConstraints>
          <gmd:accessConstraints>
            <gmd:MD_RestrictionCode
codeList="http://standards.iso.org/ittf/PubliclyAvailableStandards/ISO_19139_Schemas/resources/codelist/gmxC
odelists.xml#MD_RestrictionCode"
codeListValue="otherRestrictions">otherRestrictions</gmd:MD_RestrictionCode>
            </gmd:accessConstraints>
          <gmd:otherConstraints>
            <gco:CharacterString>
              no limitations
            </gco:CharacterString>
          </gmd:otherConstraints>
        </gmd:MD_LegalConstraints>
      </gmd:resourceConstraints>
    </gmd:MD_DataIdentification>
  </gmd:identificationInfo>
...
</gmd:MD_Metadata>

```

<sup>9</sup> INSPIRE Metadata Regulation, **Commission Regulation (EC) No 1205/2008.**

<http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:2008:326:0012:0030:EN:PDF>

### 3.1.23 Spatial representation type

ISDI Metadata Element Name	Note
Spatial representation type	Entered value is sourced from [MD_SpatialRepresentationTypeCode] codelist.

Sample encoding:

```
<gmd:MD_Metadata>
...
  <gmd:identificationInfo>
    <gmd:MD_DataIdentification>
      <gmd:spatialRepresentationType>
        <gmd:MD_SpatialRepresentationTypeCode
codeList="http://standards.iso.org/ittf/PubliclyAvailableStandards/ISO_19139_Schemas/resources/codelist/gmxC
odelists.xml#MD_SpatialRepresentationTypeCode"
codeListValue="vector">vector</gmd:MD_SpatialRepresentationTypeCode>
        </gmd:spatialRepresentationType>
      </gmd:MD_DataIdentification>
    </gmd:identificationInfo>
  ...
</gmd:MD_Metadata>
```

### 3.1.24 Spatial resolution

ISDI Metadata Element Name	Note
Spatial resolution	<p>INSPIRE Metadata Implementing Rules allows either:</p> <ol style="list-style-type: none"> <li>1. Resolution Distance <u>or</u></li> <li>2. Equivalent Scale</li> </ol> <p>to be entered, but not both.</p> <p><b><u>N.B. If both types of scale are entered then the metadata record will not be ISDI or INSPIRE compliant. It will be either one type or the other.</u></b></p> <p>A resolution distance shall be expressed as a numerical value associated with a unit of length.</p> <p>An equivalent scale is generally expressed as an integer value expressing the scale denominator.</p>

1. Sample encoding:

```
<gmd:MD_Metadata>
...
  <gmd:identificationInfo>
```

```

    <gmd:MD_DataIdentification>
      <gmd:spatialResolution>
        <gmd:MD_Resolution>
          <gmd:distance>
            <gco:Distance uom="M">10</gco:Distance>
          </gmd:distance>
        </gmd:MD_Resolution>
      </gmd:spatialResolution>
    </gmd:MD_DataIdentification>
  </gmd:identificationInfo>
  ...
</gmd:MD_Metadata>

```

2. Sample encoding:

```

<gmd:MD_Metadata>
...
  <gmd:identificationInfo>
    <gmd:MD_DataIdentification>
      <gmd:spatialResolution/>
      <gmd:spatialResolution>
        <gmd:MD_Resolution>
          <gmd:equivalentScale>
            <gmd:MD_RepresentativeFraction>
              <gmd:denominator>
                <gco:Integer>5000</gco:Integer>
              </gmd:denominator>
            </gmd:MD_RepresentativeFraction>
          </gmd:equivalentScale>
        </gmd:MD_Resolution>
      </gmd:spatialResolution>
    </gmd:MD_DataIdentification>
  </gmd:identificationInfo>
  ...
</gmd:MD_Metadata>

```

### 3.1.25 Data set language

ISDI Metadata Element Name	Note
Data set language	Code list [MD_Language] (See ISO/TS 19139) based on alpha-3 codes of ISO 639-2. Use only three-letter codes from in ISO 639-2/B (bibliographic codes), as defined at:  <a href="http://www.loc.gov/standards/iso639-2">http://www.loc.gov/standards/iso639-2</a>

Sample encoding:

```

<gmd:MD_Metadata>
...
  <gmd:identificationInfo>
    <gmd:MD_DataIdentification>
      <gmd:language>
        <gmd:LanguageCode
codeList="http://standards.iso.org/ittf/PubliclyAvailableStandards/ISO_19139_Schemas/resources/codelist/ML_g
mxCodelists.xml#LanguageCode" codeListValue="eng">eng</gmd:LanguageCode>
        </gmd:language>
      </gmd:MD_DataIdentification>
    </gmd:identificationInfo>

```

```
...
</gmd:MD_Metadata>
```

### 3.1.26 Data set character set

ISDI Metadata Element Name	Note
Data set character set	The ISDI Metadata Profile uses "UTF-8" character set encoding based on ISO/IEC 10646.

#### Sample encoding:

```
<gmd:MD_Metadata>
...
  <gmd:identificationInfo>
    <gmd:MD_DataIdentification>
      <gmd:characterSet>
        <gmd:MD_CharacterSetCode
codeList="http://standards.iso.org/ittf/PubliclyAvailableStandards/ISO_19139_Schemas/resources/codelist/gmxC
odelists.xml#MD_CharacterSetCode" codeListValue="utf8">utf8</gmd:MD_CharacterSetCode>
        </gmd:characterSet>
      </gmd:MD_DataIdentification>
    </gmd:identificationInfo>
  </gmd:MD_Metadata>
```

### 3.1.27 Data set topic category

ISDI Metadata Element Name	Note
Data set topic category	Value entered on ISO 19115 Code List [MD_TopicCategoryCode]. Enumeration (See B.5.27 of ISO 19115 or Part D 2 of the INSPIRE Implementing Rules for Metadata).

#### Sample encoding:

```
<gmd:MD_Metadata>
...
  <gmd:identificationInfo>
    <gmd:MD_DataIdentification>
      <gmd:topicCategory>
        <gmd:MD_TopicCategoryCode>biota</gmd:MD_TopicCategoryCode>
      </gmd:topicCategory>
      <gmd:topicCategory>
        <gmd:MD_TopicCategoryCode>environment</gmd:MD_TopicCategoryCode>
      </gmd:topicCategory>
    </gmd:MD_DataIdentification>
  </gmd:identificationInfo>
</gmd:MD_Metadata>
```

### 3.1.28 Geographic bounding box

ISDI Metadata Element Name	Note
Geographic bounding box	West, East, South, North latitude and longitude coordinates in decimal degrees that represent the spatial limit of the resource.

Sample encoding:

```

<gmd:MD_Metadata>
...
  <gmd:identificationInfo>
    <gmd:MD_DataIdentification>
      <gmd:extent>
        <gmd:EX_Extent>
          <gmd:geographicElement>
            <gmd:EX_GeographicBoundingBox>
              <gmd:westBoundLongitude>
                <gco:Decimal>-10.5</gco:Decimal>
              </gmd:westBoundLongitude>
              <gmd:eastBoundLongitude>
                <gco:Decimal>-5.5</gco:Decimal>
              </gmd:eastBoundLongitude>
              <gmd:southBoundLatitude>
                <gco:Decimal>51.5</gco:Decimal>
              </gmd:southBoundLatitude>
              <gmd:northBoundLatitude>
                <gco:Decimal>55.5</gco:Decimal>
              </gmd:northBoundLatitude>
            </gmd:EX_GeographicBoundingBox>
          </gmd:geographicElement>
        </gmd:EX_Extent>
      </gmd:extent>
    </gmd:MD_DataIdentification>
  </gmd:identificationInfo>
...
</gmd:MD_Metadata>

```

### 3.1.29 Temporal extent

ISDI Metadata Element Name	Note
Temporal extent	Time period covered by the content of the data set. It is recommended to use the <gco:DateTime> data type for this element.

Sample encoding:

```

<gmd:MD_Metadata>
...
  <gmd:identificationInfo>
    <gmd:MD_DataIdentification>

```

```

    <gmd:extent/>
    <gmd:extent/>
    <gmd:extent>
      <gmd:EX_Extent>
        <gmd:temporalElement>
          <gmd:EX_TemporalExtent>
            <gmd:extent>
              <gml:TimePeriod xsi:type="gml:TimePeriodType"
gml:id="ID_1">
                <gml:beginPosition>
                  2012-11-05T10:48:00
                </gml:beginPosition>
                <gml:endPosition>
                  2012-11-06T10:48:00
                </gml:endPosition>
              </gml:TimePeriod>
            </gmd:extent>
          </gmd:EX_TemporalExtent>
        </gmd:temporalElement>
      </gmd:EX_Extent>
    </gmd:extent>
  </gmd:MD_DataIdentification>
</gmd:identificationInfo>
...
</gmd:MD_Metadata>

```

### 3.1.30 Distribution information and formats

ISDI Metadata Element Name	Note
Distribution format / version	The software format the spatial resource can be distributed in.

Sample encoding:

```

<gmd:MD_Metadata>
...
  <gmd:distributionInfo>
    <gmd:MD_Distribution>
      <gmd:distributionFormat>
        <gmd:MD_Format>
          <gmd:name>
            <gco:CharacterString>GML</gco:CharacterString>
          </gmd:name>
          <gmd:version>
            <gco:CharacterString>3.2.1</gco:CharacterString>
          </gmd:version>
        </gmd:MD_Format>
      </gmd:distributionFormat>
    </gmd:MD_Distribution>
  </gmd:distributionInfo>
...
</gmd:MD_Metadata>

```

ISDI Metadata Element Name	Note
Distributor point of	This is implemented with a similar sequence of sub-elements to the

contact	<p>Responsible Party elements. The following properties are available: IndividualName, OrganisationName, positionName, Phone, Fax, Email, Address, Role [CI_RoleCode].</p> <p>(Note that there are no INSPIRE requirements on Distributor Point of contact [CI_RoleCode] as there is on Metadata Point of Contact).</p>
---------	---

Sample encoding:

<gmd:MD\_Metadata>

...

```

    <gmd:distributionInfo>
      <gmd:MD_Distribution>
        <gmd:distributor>
          <gmd:MD_Distributor>
            <gmd:distributorContact>
              <gmd:CI_ResponsibleParty>
                <gmd:organisationName
gco:nilReason="missing"/>
                <gmd:positionName gco:nilReason="missing"/>
              <gmd:contactInfo>
                <gmd:CI_Contact>
                  <gmd:phone>
                    <gmd:CI_Telephone>
                      <gmd:voice>
                        <gco:CharacterString>
                          +353-01-555555
                        </gco:CharacterString>
                      </gmd:voice>
                      <gmd:facsimile>
                        <gco:CharacterString>
                          +353-01-555556
                        </gco:CharacterString>
                      </gmd:facsimile>
                    </gmd:CI_Telephone>
                  </gmd:phone>
                  <gmd:address>
                    <gmd:CI_Address>
                      <gmd:deliveryPoint>
                        <gco:CharacterString>
                          Building name
                        </gco:CharacterString>
                      </gmd:deliveryPoint>
                      <gmd:city>
                        <gco:CharacterString>
                          Town name
                        </gco:CharacterString>
                      </gmd:city>
                      <gmd:administrativeArea>
                        <gco:CharacterString>
                          Area name
                        </gco:CharacterString>
                      </gmd:administrativeArea>
                      <gmd:postalCode>
                        <gco:CharacterString>
                          Postal code
                        </gco:CharacterString>
                      </gmd:postalCode>
                      <gmd:country>
                        <gco:CharacterString>
                          Ireland
                        </gco:CharacterString>
                      </gmd:country>
                      <gmd:electronicMailAddress>
                        <gco:CharacterString>
                          joebloggs@organisation.ie
                        </gco:CharacterString>
                    </gmd:CI_Address>
                  </gmd:address>
                </gmd:CI_Contact>
              </gmd:contactInfo>
            </gmd:CI_ResponsibleParty>
          </gmd:distributorContact>
        </gmd:MD_Distributor>
      </gmd:distributor>
    </gmd:MD_Distribution>
  </gmd:distributionInfo>

```



```

        </gco:CharacterString>
      </gmd:electronicMailAddress>
    </gmd:CI_Address>
  </gmd:address>
</gmd:CI_Contact>
</gmd:contactInfo>
<gmd:role>
  <gmd:CI_RoleCode
codeList="http://standards.iso.org/ittf/PubliclyAvailableStandards/ISO_19139_Schemas/resources/codelist/ML_g
mxCodelists.xml#CI_RoleCode" codeListValue="publisher">publisher</gmd:CI_RoleCode>
  </gmd:role>
</gmd:CI_ResponsibleParty>
</gmd:distributorContact>
</gmd:MD_Distributor>
</gmd:distributor>
</gmd:MD_Distribution>
</gmd:distributionInfo>
...
</gmd:MD_Metadata>

```

### 3.1.31 Online Access section

ISDI Metadata Element Name	Note
Resource locator	Location (address) for on-line access using a Uniform Resource Locator address or similar addressing scheme Conditional for spatial data set and spatial data set series. Mandatory if a URL is available to obtain more information on the resource and/or access to related services.

Sample encoding:  
 <gmd:MD\_Metadata>

```

...
  <gmd:distributionInfo>
    <gmd:MD_Distribution>
      <gmd:transferOptions>
        <gmd:MD_DigitalTransferOptions>
          <gmd:onLine>
            <gmd:CI_OnlineResource>
              <gmd:linkage>
                <gmd:URL>
                  http://webgis.npws.ie/npwsviewer/
                </gmd:URL>
              </gmd:linkage>
              <gmd:protocol gco:nilReason="missing"/>
              <gmd:name gco:nilReason="missing"/>
              <gmd:description>
                <gco:CharacterString>
                  NPWS Map Viewer with data download
                  application
                </gco:CharacterString>
              </gmd:description>
              <gmd:function>
                <gmd:CI_OnlineFunctionCode
codeList="http://standards.iso.org/ittf/PubliclyAvailableStandards/ISO_19139_Schemas/resources/codelist/ML_g
mxCodelists.xml#CI_OnlineFunctionCode"
codeListValue="download">download</gmd:CI_OnlineFunctionCode>
              </gmd:function>
            </gmd:CI_OnlineResource>
          </gmd:onLine>

```

```

        </gmd:MD_DigitalTransferOptions>
    </gmd:transferOptions>
</gmd:transferOptions>
    <gmd:MD_DigitalTransferOptions>
        <gmd:onLine>
            <gmd:CI_OnlineResource>
                <gmd:linkage>
                    <gmd:URL>
http://webservices.npws.ie/ArcGIS/services/WebServices/NPWSDesignatedAreas/MapServer/WMSServer?request=GetCapabilities&service=WMS
                </gmd:URL>
            </gmd:linkage>
            <gmd:protocol>
                <gco:CharacterString>
                    OGC:WMS-1.3
                </gco:CharacterString>
            </gmd:protocol>
            <gmd:name gco:nilReason="missing"/>
            <gmd:description>
                <gco:CharacterString>
                    OGC Web Map Service (1.3)
                </gco:CharacterString>
            </gmd:description>
            <gmd:function>
                <gmd:CI_OnlineFunctionCode
codeList="http://standards.iso.org/ittf/PubliclyAvailableStandards/ISO_19139_Schemas/resources/Codelist/ML_g
mxCodelists.xml#CI_OnlineFunctionCode"
codeListValue="information">information</gmd:CI_OnlineFunctionCode>
            </gmd:function>
        </gmd:CI_OnlineResource>
    </gmd:onLine>
</gmd:MD_DigitalTransferOptions>
</gmd:transferOptions>
</gmd:MD_Distribution>
</gmd:distributionInfo>
...
</gmd:MD_Metadata>

```

### 3.1.32 Data quality

This section is one of the most important of an ISDI metadata record. Particular attention should be made to the information that is entered into the lineage element as this allows the end-user to make an informed decision about the ‘fitness for purpose’ of the spatial data resource.

ISDI Metadata Element Name	Note
Resource type	This elements details the type of spatial data resource being described by the ISDI metadata record, e.g. dataset. Value is sourced from [MD_ScopeCode] codelist.

#### Sample encoding:

```

<gmd:MD_Metadata>
...
    <gmd:dataQualityInfo>
        <gmd:DQ_DataQuality>
            <gmd:scope>
                <gmd:DQ_Scope>
                    <gmd:level>
                        <gmd:MD_ScopeCode
codeList="http://standards.iso.org/ittf/PubliclyAvailableStandards/ISO_19139_Schemas/resources/codelist.xml#
MD_ScopeCode" codeListValue="dataset">dataset</gmd:MD_ScopeCode>

```

```

...
    </gmd:level>
  </gmd:DQ_Scope>
</gmd:scope>
</gmd:DQ_DataQuality>
</gmd:dataQualityInfo>
...
</gmd:MD_Metadata>

```

ISDI Metadata Element Name	Note
Lineage	General explanation of the data producer's knowledge about the lineage of a data set.

```

<gmd:MD_Metadata>
...
  <gmd:dataQualityInfo>
    <gmd:DQ_DataQuality>
      <gmd:lineage>
        <gmd:LI_Lineage>
          <gmd:statement>
            <gco:CharacterString>
This data set was digitised from Ordnance Survey of Ireland 1:10560 raster data. It was digitized on screen
using ArcGIS. The source projection is Irish National Grid.
            </gco:CharacterString>
          </gmd:statement>
        </gmd:LI_Lineage>
      </gmd:lineage>
    </gmd:DQ_DataQuality>
  </gmd:dataQualityInfo>
</gmd:MD_Metadata>

```

### 3.1.33 Conformity

In order to document the INSPIRE compliance of the spatial data resource being described, the metadata shall include information on the degree of conformity to the Directive's Implementing Rules. ISO 19115 provides a mechanism for reporting about the evaluation of the conformity of the resource against a given specification. This mechanism is used in the ISDI Metadata Profile to handle the conformity requirements of INSPIRE.

ISDI Metadata Element Name	Note
Degree	The value for this element defines the level of conformance of the spatial data resource to the cited specification or user requirement. Values can be: "True" or "False" (i.e. conformant or non-conformant)

ISDI Metadata Element Name	Note
Specification	<p>For INSPIRE data set publishing: a reference to the relevant INSPIRE Data Specification should be made</p> <p>e.g. "INSPIRE Data Specification on Protected sites"</p> <p>The current version of the INSPIRE metadata validator also looks for reference to the INSPIRE Interoperability Regulation. The reference is to be</p>

	<p>quoted as follows:</p> <p>e.g. "COMMISSION REGULATION (EU) No 1089/2010 of 23 November 2010 implementing Directive 2007/2/EC of the European Parliament and of the Council as regards interoperability of spatial data sets and services"</p>
--	--

Sample encoding:

```

<gmd:MD_Metadata>
...
  <gmd:dataQualityInfo>
    <gmd:DQ_DataQuality>
      <gmd:scope>
        <gmd:DQ_Scope>
          <gmd:level>
            <gmd:MD_ScopeCode
codeList="http://standards.iso.org/ittf/PubliclyAvailableStandards/ISO_19139_Schemas/resources/codeList.xml#
MD_ScopeCode" codeListValue="dataset">dataset</gmd:MD_ScopeCode>
          </gmd:level>
        </gmd:DQ_Scope>
      </gmd:scope>
      <gmd:report>
        <gmd:DQ_DomainConsistency>
          <gmd:result>
            <gmd:DQ_ConformanceResult>
              <gmd:specification>
                <gmd:CI_Citation>
                  <gmd:title>
                    <gco:CharacterString>
INSPIRE Data Specification on
Protected sites
                    </gco:CharacterString
>
                  </gmd:title>
                  <gmd:alternateTitle>
                    <gco:CharacterString>
INSPIRE Data Specifications
v3.0
                    </gco:CharacterString
>
                  </gmd:alternateTitle>
                  <gmd:date>
                    <gmd:CI_Date>
                      <gmd:date>

                      <gco:Date>2011-06-15</gco:Date>
                    </gmd:date>
                  </gmd:CI_Date>
                </gmd:specification>
              </gmd:DQ_ConformanceResult>
            </gmd:result>
          </gmd:DQ_DomainConsistency>
        </gmd:report>
      </gmd:DQ_DataQuality>
    </gmd:dataQualityInfo>
  </gmd:MD_Metadata>

```

```

        </gco:CharacterString>
    </gmd:explanation>
    <gmd:pass>
        <gco:Boolean>>false</gco:Boolean>
    </gmd:pass>
</gmd:DQ_ConformanceResult>
</gmd:result>
</gmd:DQ_DomainConsistency>
</gmd:report>
<gmd:report>
    <gmd:DQ_DomainConsistency>
        <gmd:result>
            <gmd:DQ_ConformanceResult>
                <gmd:specification>
                    <gmd:CI_Citation>
                        <gmd:title>
                            <gco:CharacterString>
COMMISSION REGULATION (EU) No 1089/2010 of 23 November 2010 implementing Directive 2007/2/EC of
the European Parliament and of the Council as regards interoperability of spatial data sets and services
                            </gco:CharacterString
                        >
                    </gmd:title>
                    <gmd:alternateTitle>
                        <gco:CharacterString>
INSPIRE Interoperability Regulation
                        </gco:CharacterString
                    >
                    </gmd:alternateTitle>
                    <gmd:date>
                        <gmd:CI_Date>
                            <gmd:date>
                                <gco>Date>
2010-12-08
                                </gco>Date>
                            </gmd:date>
                        </gmd:CI_Date>
                    </gmd:dateType>
                </gmd:CI_DateTypeCode
codeList="http://www.isotc211.org/2005/resources/codeList.xml#CI_DateTypeCode"
codeListValue="publication"/>
                            </gmd:dateType>
                        </gmd:CI_Date>
                    </gmd:date>
                </gmd:CI_Citation>
            </gmd:specification>
            <gmd:explanation>
                <gco:CharacterString>Level of
conformance with the COMMISSION REGULATION (EU) No 1089/2010 of 23 November 2010 implementing
Directive 2007/2/EC of the European Parliament and of the Council as regards interoperability of spatial data sets
and services</gco:CharacterString>
            </gmd:explanation>
            <gmd:pass>
                <gco:Boolean>>false</gco:Boolean>
            </gmd:pass>
        </gmd:DQ_ConformanceResult>
    </gmd:result>
</gmd:DQ_DomainConsistency>
</gmd:report>
</gmd:DQ_DataQuality>
</gmd:dataQualityInfo>
</gmd:MD_Metadata>

```

## 3.2 ISDI Spatial Data services metadata encoding

The elements below are given in the order they are detailed in the ISDI Metadata Profile Part 2 documentation<sup>10</sup>:

### 3.2.1 Metadata header

ISDI Metadata Element Name	Note
Metadata header	This is the Root Element <gmd:MD_Metadata > of an ISDI metadata document. Validating namespaces and schema should be declared in-line here. Note the use of srv namespace that reference ISO 19119 spatial data service metadata elements.

#### Sample Encoding:

```
<?xml version="1.0" encoding="UTF-8"?>

  <gmd:MD_Metadata

      xmlns:gmd="http://www.isotc211.org/2005/gmd"
      xmlns:gml="http://www.opengis.net/gml"
      xmlns:srv="http://www.isotc211.org/2005/srv"
      xmlns:gmx="http://www.isotc211.org/2005/gmx"
      xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
      xmlns:gco="http://www.isotc211.org/2005/gco"
      xmlns:xlink="http://www.w3.org/1999/xlink"
      xsi:schemaLocation="http://www.isotc211.org/2005/gmd
      http://schemas.opengis.net/iso/19139/20060504/gmd/gmd.xsd
      http://www.isotc211.org/2005/srv http://schemas.opengis.net/iso/19139/20060504/srv/srv.xsd">
    ...
  </gmd:MD_Metadata>
```

### 3.2.2 Metadata language

ISDI Metadata Element Name	Note
Metadata language	Entered value is sourced from the <b>[MD_Language]</b> codelist (See ISO/TS 19139) based on the three letter codes of ISO 639-2. E.g. "eng" or "gle"

<sup>10</sup> ISDI Metadata Profile - Part 2: Spatial Data Services (version 1.2)

#### Sample Encoding:

```
<gmd:MD_Metadata>
...
  <gmd:language>
    <gmd:LanguageCode
codeList="http://standards.iso.org/ittf/PubliclyAvailableStandards/ISO_19139_Schemas/resources/codelist/ML_g
mxCodelists.xml#LanguageCode" codeListValue="eng">eng</gmd:LanguageCode>
  </gmd:language>
...
</gmd:MD_Metadata>
```

### 3.2.3 Metadata character set

ISDI Metadata Element Name	Note
Metadata character set	This element details the Character set that the metadata information uses. The ISDI Metadata Profile uses “UTF-8” as a default.  The value is sourced from the <b>[MD_CharacterSetCode]</b> codelist.

#### Sample encoding:

```
<gmd:MD_Metadata>
...
  <gmd:characterSet>
    <gmd:MD_CharacterSetCode codeList="
http://standards.iso.org/ittf/PubliclyAvailableStandards/ISO_19139_Schemas/resources/codelist/ML_gm
xCodelists.xml#MD_CharacterSetCode" codeListValue="utf8">UTF8</gmd:MD_CharacterSetCode>
  </gmd:characterSet>
...
</gmd:MD_Metadata>
```

### 3.2.4 Resource type

ISDI Metadata Element Name	Note
Resource type	This defines the type of ISDI resource being described by the metadata record: spatial data set, spatial data set series, spatial data service. The value is sourced from the <b>[MD_ScopeCode]</b> codelist.

#### Sample encoding:

```
<gmd:MD_Metadata>
...
  <gmd:hierarchyLevel>
    <gmd:MD_ScopeCode
codeList="http://standards.iso.org/ittf/PubliclyAvailableStandards/ISO_19139_Schemas/resources/codelist/gmxC
odelists.xml#MD_ScopeCode" codeListValue="service">service</gmd:MD_ScopeCode>
  </gmd:hierarchyLevel>
...
</gmd:MD_Metadata>
```

### 3.2.5 Metadata contact

ISDI Metadata Element Name	Note
Metadata contact	<p>This metadata section contains elements and properties that define the Point of Contact for the metadata record. This section is described by child elements at the following xpath:</p> <p>/gmd:MD_Metadata/gmd:contact/gmd:CI_ResponsibleParty</p> <p><b>N.B.</b> For INSPIRE metadata compliance:</p> <ul style="list-style-type: none"> <li>• an email address is mandated at:</li> </ul> <p>/gmd:MD_Metadata/gmd:contact/gmd:CI_ResponsibleParty/gmd:contactInfo/gmd:CI_Contact/gmd:address/gmd:CI_Address/gmd:electronicMailAddress</p> <ul style="list-style-type: none"> <li>• an organisation is mandated at:</li> </ul> <p>/gmd:MD_Metadata/gmd:contact/gmd:CI_ResponsibleParty/gmd:organisationName</p> <ul style="list-style-type: none"> <li>• a role code value of 'pointOfContact' is mandated at:</li> </ul> <p>/gmd:MD_Metadata/gmd:contact/gmd:CI_ResponsibleParty/gmd:role/gmd:CI_RoleCode</p>

#### Sample encoding:

```

<gmd:MD_Metadata>
...
  <gmd:contact>
    <gmd:CI_ResponsibleParty>
      <gmd:organisationName>
        <gco:CharacterString>National Parks and Wildlife</gco:CharacterString>
      </gmd:organisationName>
      <gmd:positionName>
        <gco:CharacterString>Data manager</gco:CharacterString>
      </gmd:positionName>
      <gmd:contactInfo>
        <gmd:CI_Contact>
          <gmd:phone>
            <gmd:CI_Telephone>
              <gmd:voice>
                <gco:CharacterString>
                  +353-01-555555
                </gco:CharacterString>
              </gmd:voice>
              <gmd:facsimile>
                <gco:CharacterString>
                  +353-01-555556
                </gco:CharacterString>
              </gmd:facsimile>
            </gmd:CI_Telephone>
          </gmd:phone>
        </gmd:CI_Contact>
      </gmd:contactInfo>
    </gmd:CI_ResponsibleParty>
  </gmd:contact>

```



```

    <gmd:address>
      <gmd:CI_Address>
        <gmd:deliveryPoint>
          <gco:CharacterString>
            Building name
          </gco:CharacterString>
        </gmd:deliveryPoint>
        <gmd:city>
          <gco:CharacterString>
            Town name
          </gco:CharacterString>
        </gmd:city>
        <gmd:administrativeArea>
          <gco:CharacterString>
            Area name
          </gco:CharacterString>
        </gmd:administrativeArea>
        <gmd:postalCode>
          <gco:CharacterString>
            Postal code
          </gco:CharacterString>
        </gmd:postalCode>
        <gmd:country>
          <gco:CharacterString>
            Ireland
          </gco:CharacterString>
        </gmd:country>
        <gmd:electronicMailAddress>
          <gco:CharacterString>
            joebloggs@organisation.ie
          </gco:CharacterString>
        </gmd:electronicMailAddress>
      </gmd:CI_Address>
    </gmd:address>
  </gmd:CI_Contact>
</gmd:contactInfo>
<gmd:role>
  <gmd:CI_RoleCode
codeList="http://standards.iso.org/ittf/PubliclyAvailableStandards/ISO_19139_Schemas/resources/codelist/gmxC
odelists.xml#CI_RoleCode" codeListValue="pointOfContact">pointOfContact</gmd:CI_RoleCode>
  </gmd:role>
</gmd:CI_ResponsibleParty>
</gmd:contact>
...
</gmd:MD_Metadata>

```

### 3.2.6 Metadata date

ISDI Metadata Element Name	Note
Metadata date	It is recommended to use the <gco:DateTime> data type to describe this element.

#### Sample encoding:

```

<gmd:MD_Metadata>
...
  <gmd:dateStamp>
    <gco:DateTime>2010-04-12T16:21:32</gco:DateTime>
  </gmd:dateStamp>
...
</gmd:MD_Metadata>

```

### 3.2.7 Metadata standard name

ISDI Metadata Element Name	Note
Metadata standard name	It is recommended that the following standard text is to be entered in ISDI metadata templates: "ISDI Metadata Profile"

Sample encoding:

```
<gmd:MD_Metadata>
...
  <gmd:metadataStandardName>
    <gco:CharacterString> ISDI Metadata Profile</gco:CharacterString>
  </gmd:metadataStandardName>
...
</gmd:MD_Metadata>
```

### 3.2.8 Metadata standard version

ISDI Metadata Element Name	Note
Metadata standard version	It is recommended that this standard text be entered in ISDI metadata templates for this element: "1.2"

Sample encoding:

```
<gmd:MD_Metadata>
...
  <gmd:metadataStandardVersion>
    <gco:CharacterString>1.2</gco:CharacterString>
  </gmd:metadataStandardVersion>
...
</gmd:MD_Metadata>
```

### 3.2.9 Spatial reference system

ISDI Metadata Element Name	Note
Spatial reference system	The EPSG Geodetic Parameter Data set through the unique EPSG URN, e.g. urn:ogc:def:crs:EPSG::2157. This may be referenced through a combination

	of the gmd:code and gmd:codespace elements as per the sample encoding example below for Irish Transverse Mercator.
--	--

Sample encoding:

```

<gmd:MD_Metadata>
...
  <gmd:referenceSystemInfo>
    <gmd:MD_ReferenceSystem>
      <gmd:referenceSystemIdentifier>
        <gmd:RS_Identifier>
          <gmd:authority>
            <gmd:CI_Citation>
              <gmd:title>
                <gco:CharacterString>EPSG Geodetic
                Parameter
                Dataset</gco:CharacterString>
              </gmd:title>
              <gmd:date>
                <gmd:CI_Date>
                  <gmd:date>
                    <gco:Date>2009-11-25</gco:Date>
                  </gmd:date>
                </gmd:CI_Date>
              </gmd:date>
            </gmd:CI_Citation>
          </gmd:authority>
          <gmd:code>
            <gco:CharacterString>2157</gco:CharacterString>
          </gmd:code>
          <gmd:codeSpace>
            <gco:CharacterString>
            urn:ogc:def:crs:EPSG::
            </gco:CharacterString>
          </gmd:codeSpace>
        </gmd:RS_Identifier>
      </gmd:referenceSystemIdentifier>
    </gmd:MD_ReferenceSystem>
  </gmd:referenceSystemInfo>
...
</gmd:MD_Metadata>

```

**3.2.10 Resource title**

ISDI Metadata Element Name	Note
Resource title	A name by which the resource is known and easily identified. Abbreviation of content should be avoided.

Sample Encoding:

```

<gmd:MD_Metadata>
...
  <gmd:identificationInfo>
    <srv:SV_ServiceIdentification>
      <gmd:citation>
        <gmd:CI_Citation>

```

```

        <gmd:title>
          <gco:CharacterString>
Ireland - INSPIRE Protected Sites - Natura 2000 Special Areas of Conservation (INSPIRE View Service)
          </gco:CharacterString>
        </gmd:title>
        <gmd:alternateTitle>
          <gco:CharacterString>
            SAC_ViewService
          </gco:CharacterString>
        </gmd:alternateTitle>
        </gmd:CI_Citation>
      </gmd:citation>
    </srv:SV_ServiceIdentification>
  </gmd:identificationInfo>
  ...
</gmd:MD_Metadata>

```

### 3.2.11 Resource alternate title

ISDI Metadata Element Name	Note
Resource alternate title	Alternate names or languages by which the resource is known. Abbreviations or acronyms may also be detailed here.

#### Sample Encoding:

```

<gmd:MD_Metadata>
...
  <gmd:identificationInfo>
    <srv:SV_ServiceIdentification>
      <gmd:citation>
        <gmd:CI_Citation>
          <gmd:title>
            <gco:CharacterString>
Ireland - INSPIRE Protected Sites - Natura 2000 Special Areas of Conservation (INSPIRE View Service)
            </gco:CharacterString>
          </gmd:title>
          <gmd:alternateTitle>
            <gco:CharacterString>
              SAC_ViewService
            </gco:CharacterString>
          </gmd:alternateTitle>
        </gmd:CI_Citation>
      </gmd:citation>
    </srv:SV_ServiceIdentification>
  </gmd:identificationInfo>
  ...
</gmd:MD_Metadata>

```

### 3.2.12 Date of publication

ISDI Metadata Element Name	Note
----------------------------	------

Date of publication	The <gco:Date> or <gco:DateTime> data types can be used to describe this element
---------------------	--

Sample encoding:

```

<gmd:MD_Metadata>
...
  <gmd:identificationInfo>
    <srv:SV_ServiceIdentification>
      <gmd:citation>
        <gmd:CI_Citation>
          <gmd:date>
            <gmd:CI_Date>
              <gmd:date>
                <gco:DateTime>
                  2010-08-21T00:00:00
                </gco:DateTime>
              </gmd:date>
            <gmd:dateType>
              <gmd:CI_DateTypeCode
codeList="http://standards.iso.org/ittf/PubliclyAvailableStandards/ISO_19139_Schemas/resources/codelist/ML_g
mxCodelists.xml#CI_DateTypeCode" codeListValue="publication">publication</gmd:CI_DateTypeCode>
              </gmd:dateType>
            </gmd:CI_Date>
          </gmd:date>
        </gmd:CI_Citation>
      </gmd:citation>
    </srv:SV_ServiceIdentification>
  </gmd:identificationInfo>
...
</gmd:MD_Metadata>

```

**3.2.13 Date of creation**

ISDI Metadata Element Name	Note
Date of creation	The <gco:Date> or <gco:DateTime> data types can be used to describe this element

Sample encoding:

```

<gmd:MD_Metadata>
...
  <gmd:identificationInfo>
    <srv:SV_ServiceIdentification>
      <gmd:citation>
        <gmd:CI_Citation>
          <gmd:date>
            <gmd:CI_Date>
              <gmd:date>
                <gco:DateTime>
                  2010-08-21T00:00:00
                </gco:DateTime>
              </gmd:date>
            <gmd:dateType>
              <gmd:CI_DateTypeCode
codeList="http://standards.iso.org/ittf/PubliclyAvailableStandards/ISO_19139_Schemas/resources/codelist/ML_g
mxCodelists.xml#CI_DateTypeCode" codeListValue="creation">creation</gmd:CI_DateTypeCode>
              </gmd:dateType>
            </gmd:CI_Date>
          </gmd:date>
        </gmd:CI_Citation>
      </gmd:citation>
    </srv:SV_ServiceIdentification>
  </gmd:identificationInfo>
...
</gmd:MD_Metadata>

```

```

        </gmd:citation>
      </srv:SV_ServiceIdentification>
    </gmd:identificationInfo>
    ...
  </gmd:MD_Metadata>

```

### 3.2.14 Date of last revision

ISDI Metadata Element Name	Note
Date of last revision	The <gco:Date> or <gco:DateTime> data types can be used to describe this element

Sample encoding:

```

<gmd:MD_Metadata>
...
  <gmd:identificationInfo>
    <srv:SV_ServiceIdentification>
      <gmd:citation>
        <gmd:CI_Citation>
          <gmd:date>
            <gmd:CI_Date>
              <gmd:date>
                <gco:DateTime>
                  2010-08-21T00:00:00
                </gco:DateTime>
              </gmd:date>
              <gmd:dateType>
                <gmd:CI_DateTypeCode
codeList="http://standards.iso.org/ittf/PubliclyAvailableStandards/ISO_19139_Schemas/resources/codelist/ML_g
mxCodelists.xml#CI_DateTypeCode" codeListValue="revision">revision</gmd:CI_DateTypeCode>
                </gmd:dateType>
              </gmd:CI_Date>
            </gmd:date>
          </gmd:CI_Citation>
        </gmd:citation>
      </srv:SV_ServiceIdentification>
    </gmd:identificationInfo>
    ...
  </gmd:MD_Metadata>

```

### 3.2.15 Resource abstract

ISDI Metadata Element Name	Note
Resource abstract	Free text narrative of 50-200 words. This may cover topics such as a description of the contents, legislative background, project context, data quality, level of completion etc.

Sample encoding:

```

<gmd:MD_Metadata>
...

```

```

    <gmd:identificationInfo>
      <srv:SV_ServiceIdentification>
        <gmd:abstract>
          <gco:CharacterString>This INSPIRE View Service publishes the data for the
Special Areas of Conservation (SAC), a layer in the INSPIRE Protected Sites data theme for the Republic of
Ireland.
These are prime wildlife conservation areas in the country, considered to be important on a European as well as
Irish level. Most Special Areas of Conservation (SACs) are in the countryside, although a few sites reach into
town or city landscapes, such as Dublin Bay and Cork Harbour. Detailed conservation objectives are available for
some SACs and as additional ones are approved they will be posted on the NPWS website (www.npws.ie). The
legal basis on which SACs are selected and designated is the EU Habitats Directive, transposed into Irish law in
the as amended in 1998 and 2005. The Directive lists certain habitats and species that must be protected within
SACs This is a national data set.</gco:CharacterString>
        </gmd:abstract>
      </srv:SV_ServiceIdentification>
    </gmd:identificationInfo>
  ...
</gmd:MD_Metadata>

```

### 3.2.16 Responsible party

ISDI Metadata Element Name	Note
Responsible party	Contact details of the party responsible for the spatial data resource. The minimum requirement for this section is: an organisation name, a contact email address, and a role code.

#### Sample encoding:

```

<gmd:MD_Metadata>
..
  <gmd:identificationInfo>
    <srv:SV_ServiceIdentification>
      <gmd:pointOfContact>
        <gmd:CI_ResponsibleParty>
          <gmd:organisationName>
            <gco:CharacterString>
              National Parks and Wildlife Service
            </gco:CharacterString>
          </gmd:organisationName>
          <gmd:positionName>
            <gco:CharacterString>Data
          </gmd:positionName>
          <gmd:contactInfo>
            <gmd:CI_Contact>
              <gmd:phone>
                <gmd:CI_Telephone>
                  <gmd:voice gco:nilReason="missing"/>
                  <gmd:facsimile gco:nilReason="missing"/>
                </gmd:CI_Telephone>
              </gmd:phone>
              <gmd:address>
                <gmd:CI_Address>
                  <gmd:deliveryPoint gco:nilReason="missing"/>
                  <gmd:city gco:nilReason="missing"/>
                  <gmd:administrativeArea
                    gco:nilReason="missing"/>
                    <gmd:postalCode gco:nilReason="missing"/>
                    <gmd:country gco:nilReason="missing"/>
                    <gmd:electronicMailAddress>

```

```

        <gco:CharacterString>
        joebloggs@organisation.ie
        </gco:CharacterString>
    >
    </gmd:electronicMailAddress>
</gmd:CI_Address>
</gmd:address>
</gmd:CI_Contact>
</gmd:contactInfo>
<gmd:role>
    <gmd:CI_RoleCode
codeList="http://standards.iso.org/ittf/PubliclyAvailableStandards/ISO_19139_Schemas/resources/codelist/gmxC
odelists.xml#CI_RoleCode" codeListValue="distributor">distributor</gmd:CI_RoleCode>
    </gmd:role>
    </gmd:CI_ResponsibleParty>
    </gmd:pointOfContact>
</srv:SV_ServiceIdentification>
</gmd:identificationInfo>
..
</gmd:MD_Metadata>

```

### 3.2.17 Descriptive keywords

ISDI Metadata Element Name	Note
Descriptive keywords	For ISDI spatial data services e.g. WMS, WFS, at least one keyword shall be included that defines the category or subcategory of the service using its language neutral name as defined in Part D 4 of the INSPIRE Metadata Implementing Rules <sup>11</sup> . E.g. <i>infoMapAccessService</i> .

#### Sample encoding:

```

<gmd:MD_Metadata>
...
    <gmd:identificationInfo>
        <srv:SV_ServiceIdentification>
            <gmd:descriptiveKeywords/>
            <gmd:descriptiveKeywords>
                <gmd:MD_Keywords>
                    <gmd:keyword>
                        <gco:CharacterString>
                        infoMapAccessService
                        </gco:CharacterString>
                    </gmd:keyword>
                </gmd:type>
                <gmd:MD_KeywordTypeCode
codeList="http://standards.iso.org/ittf/PubliclyAvailableStandards/ISO_19139_Schemas/resources/codelist/ML_g
mxCodelists.xml#MD_KeywordTypeCode" codeListValue="theme">theme</gmd:MD_KeywordTypeCode>
                </gmd:type>
                <gmd:thesaurusName>
                    <gmd:CI_Citation>
                        <gmd:title>
                            <gco:CharacterString>
                            ISO 19119
                            </gco:CharacterString>
                        </gmd:title>
                    </gmd:CI_Citation>
                </gmd:thesaurusName>
            </gmd:MD_Keywords>
        </gmd:descriptiveKeywords>
    </gmd:identificationInfo>

```

<sup>11</sup> INSPIRE Metadata Regulation,

<http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:2008:326:0012:0030:EN:PDF>



```

        <gmd:date>
            <gmd:CI_Date>
                <gmd:date>
                    <gco:Date>
                        2010-01-01
                    </gco:Date>
                </gmd:date>
            </gmd:CI_Date>
        </gmd:dateType>
    </gmd:CI_DateTypeCode>
    codeList="http://standards.iso.org/ittf/PubliclyAvailableStandards/ISO_19139_Schemas/resources/codelist/ML_g
    mxCodelists.xml#CI_DateTypeCode" codeListValue="revision">revision</gmd:CI_DateTypeCode>
    </gmd:dateType>
    </gmd:CI_Date>
    </gmd:date>
    </gmd:CI_Citation>
    </gmd:thesaurusName>
    </gmd:MD_Keywords>
    </gmd:descriptiveKeywords>
    </srv:SV_ServiceIdentification>
    </gmd:identificationInfo>
    ...
</gmd:MD_Metadata>

```

### 3.2.18 Constraints related to access and use

ISDI Metadata Element Name	Note
Constraints related to access and use	<p>This encoding is best explained for the two separate INSPIRE cases for this element:</p> <p><b>1. Conditions applying to access and use</b></p> <p>This metadata element defines the conditions for access and use of spatial data sets and services, and where applicable, corresponding fees as required by Article 5(2)(b) and Article 11(2)(f) of Directive 2007/2/EC.</p> <p>The value domain of this metadata element is free text. The element must have values. If no conditions apply to the access and use of the resource, “no conditions apply” shall be used. If conditions are unknown, “conditions unknown” shall be used.</p> <p>This element shall also provide information on any fees necessary to access and use the resource, if applicable, or refer to a uniform resource locator (URL) where information on fees is available.<sup>12</sup></p> <p><b>2. Limitations on public access</b></p> <p>When Member States limit public access to spatial data sets and spatial data services under Article 13 of Directive 2007/2/EC, this metadata element shall provide information on the limitations and the reasons for them. If there are no limitations on public access, this metadata element shall indicate that fact. E.g. “no limitations”</p> <p>The value domain of this metadata element is free text.</p>

<sup>12</sup> INSPIRE Metadata Regulation

Sample encoding:

```

<gmd:MD_Metadata>
...
  <gmd:identificationInfo>
    <srv:SV_ServiceIdentification>
      <gmd:resourceConstraints>
        <gmd:MD_Constraints>
          <gmd:useLimitation>
            <gco:CharacterString>
              Irish PSI Licence: http://psi.gov.ie/files/2010/03/PSI-Licence.pdf
            </gco:CharacterString>
          </gmd:useLimitation>
        </gmd:MD_Constraints>
      </gmd:resourceConstraints>
      <gmd:resourceConstraints>
        <gmd:MD_LegalConstraints>
          <gmd:accessConstraints>
            <gmd:MD_RestrictionCode
              codeList="http://standards.iso.org/ittf/PubliclyAvailableStandards/ISO_19139_Schemas/resources/codelist/gmxC
              odelists.xml#MD_RestrictionCode"
              codeListValue="otherRestrictions">otherRestrictions</gmd:MD_RestrictionCode>
            </gmd:accessConstraints>
            <gmd:otherConstraints>
              <gco:CharacterString>
                no limitations
              </gco:CharacterString>
            </gmd:otherConstraints>
          </gmd:MD_LegalConstraints>
        </gmd:resourceConstraints>
      </srv:SV_ServiceIdentification>
    </gmd:identificationInfo>
  ...
</gmd:MD_Metadata>

```

### 3.2.19 Service type

ISDI Metadata Element Name	Note
Service type	This element declares the type of INSPIRE spatial data service being described. The values for this are taken from Part D3 of the INSPIRE Implementing Rules

```

<gmd:MD_Metadata>
...
  <gmd:identificationInfo>
    <srv:SV_ServiceIdentification>
      <srv:serviceType>
        <gco:LocalName>view</gco:LocalName>
      </srv:serviceType>
    </srv:SV_ServiceIdentification>
  </gmd:identificationInfo>
...
</gmd:MD_Metadata>

```

### 3.2.20 Coupled resource section encoding

This ISDI Metadata section details the coupled spatial data resources that the spatial data service operates on. An example might be that it is possible to link from a layer in an INSPIRE View Service (WMS) back to the metadata for the relevant spatial data set.

The approach to this entire section is best explained with a single encoding example.

ISDI Metadata Element Name	Note
Coupled resource / Operates On	<p>This is mandatory if linkage to data sets on which the service operates are available. Generally this will be true if you are describing ISDI View and Download services. The coupled resource is described through the &lt;srv@operatesOn&gt; element.</p> <p>The value entered here can be one of the following URL types:</p> <ol style="list-style-type: none"> <li>1. A Unique Resource Identifier based on a URL e.g.  <a href="http://image2000.jrc.it#image2000_1_n12_multi">http://image2000.jrc.it#image2000_1_n12_multi</a> </li> <li>2. A CSW GetRecord BY ID request back to the sources data set metadata record e.g.  <a href="http://inspire.environ.ie/geonetwork/srv/en/csw?request=GetRecordById&amp;service=CSW&amp;app:version=2.0.2&amp;id=a95940a0-5e06-4adb-84b2-0af3e7dae92b&amp;elementSetName=full&amp;OutputSchema=http://www.isotc211.org/2005/gmd&amp;elementSetName=full">http://inspire.environ.ie/geonetwork/srv/en/csw?request=GetRecordById&amp;service=CSW&amp;app:version=2.0.2&amp;id=a95940a0-5e06-4adb-84b2-0af3e7dae92b&amp;elementSetName=full&amp;OutputSchema=http://www.isotc211.org/2005/gmd&amp;elementSetName=full</a> </li> </ol> <p><b>N.B.</b> the &lt;srv:SV_CoupledResource&gt; is not being used by ISDI and INSPIRE for couple resource and that the element needs to be declared as missing to ensure the metadata record XML remains valid according to ISO 19119 schemas. See sample encoding below)</p>
ISDI Metadata Element Name	Note
Coupling type	<p>Coupling type is mandated by ISO 19119. The value is sourced from the SV_CouplingTypeodelist.</p> <ul style="list-style-type: none"> <li>▪ <b>loose</b> - if there is no coupled Resource (the operatesOn property[GJ-(1)] of SV_ServiceIdentification is not instantiated);</li> <li>▪ <b>tight</b> - if the service only operates on the Coupled Resources</li> <li>▪ <b>mixed</b> - if the service operates on the Coupled Resources and external spatial data set and spatial data set series.</li> </ul>

Sample encoding:

```

<gmd:MD_Metadata>
  <gmd:identificationInfo>
    <srv:SV_ServiceIdentification>
      <srv:serviceType>
        <gco:LocalName>view</gco:LocalName>
      </srv:serviceType>
      <srv:coupledResource>
        <srv:SV_CoupledResource>
          <srv:operationName gco:nilReason="missing"/>
          <srv:identifier gco:nilReason="missing"/>
          </srv:SV_CoupledResource>
        </srv:coupledResource>
        <srv:couplingType>
          <srv:SV_CouplingType codeList="#SV_CouplingType"
codeListValue="tight">tight
          </srv:SV_CouplingType>
        </srv:couplingType>
        <srv:operatesOn xlink:href="http://image2000.jrc.it#image2000_1_n12_multi"/>
      </srv:SV_ServiceIdentification>
    </gmd:identificationInfo>
  </gmd:MD_Metadata>

```

### 3.2.21 Distribution information and formats

ISDI Metadata Element Name	Note
Distribution format / version	The software format the spatial resource can be distributed in.

Sample encoding:

```

<gmd:MD_Metadata>
...
  <gmd:distributionInfo>
    <gmd:MD_Distribution>
      <gmd:distributionFormat>
        <gmd:MD_Format>
          <gmd:name>
            <gco:CharacterString>GML</gco:CharacterString>
          </gmd:name>
          <gmd:version>
            <gco:CharacterString>3.2.1</gco:CharacterString>
          </gmd:version>
        </gmd:MD_Format>
      </gmd:distributionFormat>
    </gmd:MD_Distribution>
  </gmd:distributionInfo>
...
</gmd:MD_Metadata>

```

ISDI Metadata Element Name	Note
Distributor point of	This is implemented with a similar sequence of sub-elements to the

contact	Responsible Party elements. The following properties are required: IndividualName, OrganisationName, positionName, Phone, Fax, Email, Address, Role [CI_RoleCode]
---------	---

Sample encoding:

```

<gmd:MD_Metadata>
...
  <gmd:distributionInfo>
    <gmd:MD_Distribution>
      <gmd:distributor>
        <gmd:MD_Distributor>
          <gmd:distributorContact>
            <gmd:CI_ResponsibleParty>
              <gmd:organisationName
gco:nilReason="missing"/>
                <gmd:positionName gco:nilReason="missing"/>
              <gmd:contactInfo>
                <gmd:CI_Contact>
                  <gmd:phone>
                    <gmd:CI_Telephone>
                      <gmd:voice>
                        <gco:CharacterString>
                          +353-01-555555
                        </gco:CharacterString>
                      </gmd:voice>
                      <gmd:facsimile>
                        <gco:CharacterString>
                          +353-01-555556
                        </gco:CharacterString>
                      </gmd:facsimile>
                    </gmd:CI_Telephone>
                  </gmd:phone>
                <gmd:address>
                  <gmd:CI_Address>
                    <gmd:deliveryPoint>
                      <gco:CharacterString>
                        Building name
                      </gco:CharacterString>
                    </gmd:deliveryPoint>
                    <gmd:city>
                      <gco:CharacterString>
                        Town name
                      </gco:CharacterString>
                    </gmd:city>
                    <gmd:administrativeArea>
                      <gco:CharacterString>
                        Area name
                      </gco:CharacterString>
                    </gmd:administrativeArea>
                    <gmd:postalCode>
                      <gco:CharacterString>
                        Postal code
                      </gco:CharacterString>
                    </gmd:postalCode>
                    <gmd:country>
                      <gco:CharacterString>
                        Ireland
                      </gco:CharacterString>
                    </gmd:country>
                    <gmd:electronicMailAddress>
                      <gco:CharacterString>
                        joebloggs@organisation.ie
                      </gco:CharacterString>
                    </gmd:electronicMailAddress>
                  </gmd:CI_Address>
                </gmd:address>
              </gmd:CI_Contact>
            </gmd:contactInfo>
          </gmd:CI_ResponsibleParty>
        </gmd:distributorContact>
      </gmd:MD_Distributor>
    </gmd:distributor>
  </gmd:MD_Distribution>
</gmd:distributionInfo>

```

```

        </gmd:address>
      </gmd:CI_Contact>
    </gmd:contactInfo>
  </gmd:role>
  <gmd:CI_RoleCode
codeList="http://standards.iso.org/ittf/PubliclyAvailableStandards/ISO_19139_Schemas/resources/codelist/ML_g
mxCodelists.xml#CI_RoleCode" codeListValue="publisher">publisher</gmd:CI_RoleCode>
    </gmd:role>
  </gmd:CI_ResponsibleParty>
</gmd:distributorContact>
</gmd:MD_Distributor>
</gmd:distributor>
</gmd:MD_Distribution>
</gmd:distributionInfo>
...
</gmd:MD_Metadata>

```

### 3.2.22 Online access information

ISDI Metadata Element Name	Note
Resource locator	Location (address) for on-line access using a Uniform Resource Locator address or similar addressing scheme. This URL is used in the INSPIRE Metadata Technical Guidance as the invocation point of Network Services and Spatial data services. It is therefore mandatory under INSPIRE.

#### Sample encoding:

```

<gmd:MD_Metadata>
...
  <gmd:distributionInfo>
    <gmd:MD_Distribution>
      <gmd:transferOptions>
        <gmd:MD_DigitalTransferOptions>
          <gmd:onLine>
            <gmd:CI_OnlineResource>
              <gmd:linkage>
                <gmd:URL>
                  http://webgis.npws.ie/npwsviewer/
                </gmd:URL>
              </gmd:linkage>
              <gmd:protocol gco:nilReason="missing"/>
              <gmd:name gco:nilReason="missing"/>
              <gmd:description>
                <gco:CharacterString>
                  NPWS Map Viewer with data download
                </gco:CharacterString>
              </gmd:description>
              <gmd:function>
                <gmd:CI_OnLineFunctionCode
codeList="http://standards.iso.org/ittf/PubliclyAvailableStandards/ISO_19139_Schemas/resources/codelist/ML_g
mxCodelists.xml#CI_OnLineFunctionCode"
codeListValue="download">download</gmd:CI_OnLineFunctionCode>
              </gmd:function>
            </gmd:CI_OnlineResource>
          </gmd:onLine>
        </gmd:MD_DigitalTransferOptions>
      </gmd:transferOptions>
    </gmd:MD_Distribution>
  </gmd:distributionInfo>

```

```

<gmd:transferOptions>
  <gmd:MD_DigitalTransferOptions>
    <gmd:onLine>
      <gmd:CI_OnlineResource>
        <gmd:linkage>
          <gmd:URL>
http://webservices.npws.ie/ArcGIS/services/WebServices/NPWSDesignatedAreas/MapServer/WMSServer?request=GetCapabilities&service=WMS </gmd:URL>
        </gmd:linkage>
        <gmd:protocol>
          <gco:CharacterString>
            OGC:WMS-1.3
          </gco:CharacterString>
        </gmd:protocol>
        <gmd:name gco:nilReason="missing"/>
        <gmd:description>
          <gco:CharacterString>
            OGC Web Map Service (1.3)
          </gco:CharacterString>
        </gmd:description>
        <gmd:function>
          <gmd:CI_OnLineFunctionCode
codeList="http://standards.iso.org/ittf/PubliclyAvailableStandards/ISO_19139_Schemas/resources/Codelist/ML_g
mxCodeLists.xml#CI_OnLineFunctionCode"
codeListValue="information">information</gmd:CI_OnLineFunctionCode>
          </gmd:function>
        </gmd:CI_OnlineResource>
      </gmd:onLine>
    </gmd:MD_DigitalTransferOptions>
  </gmd:transferOptions>
</gmd:MD_Distribution>
</gmd:distributionInfo>
...
</gmd:MD_Metadata>

```

ISDI Metadata Element Name	Note
Operations metadata	<p>ISO 19119 requires that a spatial data service instance is described by SV_OperationMetadata. This is not mandatory under INSPIRE but the ISDI Metadata Profile recommends the following sub-elements should be filled in to maximise ISO 19119 compliance:</p> <ul style="list-style-type: none"> <li>• <b>Operation Name:</b> e.g. GetCapabilities; GetMap; GetFeature</li> <li>• <b>Distributed Computing Protocol (DCP):</b> a default value of “webServices” is recommended here.</li> <li>• <b>Connect point:</b> a URL of a Connect Point which will respond to a OGC GetCapabilities request</li> </ul> <p><b>It is recommended that the Connect Point URL should reference an OGC spatial data service end-point with a ‘?’ character at the end of the URL. Generally for the purposes of the ISDI spatial data service description, the Connect Point will correlate with the URL in the Resource Locator</b></p>

```

<srv:containsOperations>
  <srv:SV_OperationMetadata>
    <srv:operationName>
      <gco:CharacterString>
        GetCapabilities
      </gco:CharacterString>
    </srv:operationName>
    <srv:DCP>

```

```

codeListValue="WebServices"/>
    <srv:DCPList codeList="#DCPList"
    </srv:DCP>
    <srv:connectPoint>
        <gmd:CI_OnlineResource>
            <gmd:linkage>
                <gmd:URL>
http://176.34.130.8/arcgis/services/InspireServices/DoEInspireNatura2000SACs/MapServer/InspireViewService?
                </gmd:URL>
            </gmd:linkage>
        </gmd:CI_OnlineResource>
    </srv:connectPoint>
</srv:SV_OperationMetadata>
</srv:containsOperations>

```

### 3.2.23 Data quality

ISDI Metadata Element Name	Note
Resource type	<p>This elements details the type of spatial data resource being described by the ISDI metadata record, e.g. dataset. Value is sourced from [MD_ScopeCode] codelist.</p> <p>Note that 'lineage does not need to be populated for an ISDI spatial data service.</p>

#### Sample encoding:

```

<gmd:MD_Metadata>
...
    <gmd:dataQualityInfo>
        <gmd:DQ_DataQuality>
            <gmd:scope>
                <gmd:DQ_Scope>
                    <gmd:level>
                        <gmd:MD_ScopeCode
codeList="http://standards.iso.org/ittf/PubliclyAvailableStandards/ISO_19139_Schemas/resources/codeList.xml#
MD_ScopeCode" codeListValue="dataset">dataset</gmd:MD_ScopeCode>
                        </gmd:level>
                    </gmd:DQ_Scope>
                </gmd:scope>
            </gmd:DQ_DataQuality>
        </gmd:dataQualityInfo>
    ...
</gmd:MD_Metadata>

```

### 3.2.24 Conformity

In order to document the INSPIRE compliance of the spatial data resource being described the metadata shall include information on the degree of conformity to the Directive's Implementing Rules. ISO 19115 provides a mechanism for reporting about the evaluation of the conformity of the resource against a given specification. This mechanism is used in the ISDI Metadata Profile to handle the conformity requirements of INSPIRE.

ISDI Metadata Element Name	Note
----------------------------	------



Element Name	
Degree	The value for this element defines the level of conformance of the spatial data resource to the cited specification or user requirement. Values can be: "True" or "False" (i.e. conformant or non-conformant)

ISDI Metadata Element Name	Note
Specification	<p>For INSPIRE data set publishing: a reference to the relevant INSPIRE Implementing Rule should be made</p> <p>e.g. "INSPIRE Network Service Regulation"</p> <p>The current version of the INSPIRE metadata validator also looks for reference to the INSPIRE Interoperability Regulation. The reference is to be quoted as follows:</p> <p>e.g. "COMMISSION REGULATION (EU) No 1089/2010 of 23 November 2010 implementing Directive 2007/2/EC of the European Parliament and of the Council as regards interoperability of spatial data sets and services"</p>

Sample encoding:

```

<gmd:MD_Metadata>
...
  <gmd:dataQualityInfo>
    <gmd:DQ_DataQuality>
      <gmd:scope>
        <gmd:DQ_Scope>
          <gmd:level>
            <gmd:MD_ScopeCode
codeList="http://standards.iso.org/ittf/PubliclyAvailableStandards/ISO_19139_Schemas/resources/codelist/ML_g
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