



# Metadata Standard for Maritime Spatial Plans

A common structure to describe data associated with maritime spatial plans.



Produced by Technical Expert Group (TEG) on Data for MSP.

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**A common structure to describe data associated  
with maritime spatial plans.**



*Foras na Mara*  
*Marine Institute*



Consiglio Nazionale delle Ricerche



L'océan  
en référence



PLANNING AUTHORITY



## Produced by Technical Expert Group (TEG) on Data for MSP

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## List of Abbreviations

Term	Description
DCAT	Data Catalogue Vocabulary
EMODNET	European Marine Observation and Data Network
FAIR	Findable, Accessible, Interoperable and Reproducible
HILUC	Hierarchical INSPIRE Land Use Classification System
INSPIRE	Infrastructure for Spatial Information in the European Community
MSFD	Marine Strategy Framework Directive
MSP	Maritime Spatial Planning
MSPD	Maritime/Marine Spatial Planning Directive
TEG	Technical Expert Group
RDF	Resource Description Framework
UN	United Nations
URI	Uniform Resource Identifier
W3C	World Wide Web Consortium
WFS	Web Feature Service
WKT	Well Known Text
WMS	Web Map Service

## 1. INTRODUCTION

Maritime Spatial Planning (MSP) is vital to providing healthy, productive and sustainable oceans. Under the EU [Maritime Spatial Planning Directive \(MSPD\)](#), each member state with maritime waters is obliged to formulate and enact into law a maritime spatial plan. This is a legal framework that sets out to allocate, both spatially and temporally, the human activity in marine areas to achieve ecological, economic and social objectives that have been specified through a political process. It is important to have a maritime spatial plan to sustainably grow economic activity, preserve ecological biodiversity and support energy security. It can also help to resolve disputes between industries, promote cross-border collaboration and establish synergies between sectors. To achieve these aims, maritime spatial plans must comply with good data management and the FAIR (Findability, Accessibility, Interoperability and Reusability) Data Principles (Wilkinson et al. 2016). The EU Technical Expert Group (TEG) on Data for Maritime Spatial Planning recommended it was necessary to create a metadata profile for maritime spatial plans to meet FAIR Data Principles.

Metadata is a description of the data. In the case of this metadata profile, the data being described are maritime spatial plans including the spatial and temporal coverage of these plans; the organisations responsible for the creation, monitoring or implementation of these plans; and digital resources such as datasets used in the creation of a plan or developed through a maritime spatial plan and legislation or policies published online which inform the development of or support a maritime spatial plan. Complementary vocabularies are used alongside this metadata profile in order to make connections to other initiatives, for example, the [Marine Strategy Framework Directive \(MSFD\)](#) and the [Infrastructure for Spatial Information in the European Community \(INSPIRE\) Directive](#). The metadata profile enables the reusability and sharing of data across multiple countries, organisations and government departments.

This document describes a metadata profile developed by the Technical Expert Group (TEG) on Data for Maritime Spatial Planning and which supports the discovery of maritime plans in a number of systems such as the UN Ocean Data Information System and the European Commission's INSPIRE Spatial Data Infrastructure.

## 2. DESIGN APPROACH

The TEG subgroup on Metadata was formed with a priority to adopt a metadata profile for maritime spatial planning. The aim was to develop a standard that would be descriptive enough to capture sufficient information to meet these user needs, whilst not being too onerous for creators.

As a first step, a literature review was conducted to examine existing European and international metadata standards. Although there are many existing metadata standards, it was concluded that a suitable methodology for maritime spatial plans did not exist and that the TEG would devise an appropriate strategy. The group looked at existing standards, including INSPIRE and Data Catalogue Vocabulary (DCAT), to find commonalities that could be adapted for maritime spatial plans. This resulted in a simple metadata profile consisting of essential fields which were distributed to the wider TEG for feedback. Following this, the group constructed use cases of different scenarios where one would be searching for a maritime spatial plan. The metadata profile evolved to abide by these different scenarios and this was once again distributed to the TEG for feedback before arriving at the final metadata profile which is presented in section 3 and described in detail in section 4 below. The full list of use cases can be found in Annex 1.

### 3. METADATA OVERVIEW

The metadata profile can be seen in Figure 1.

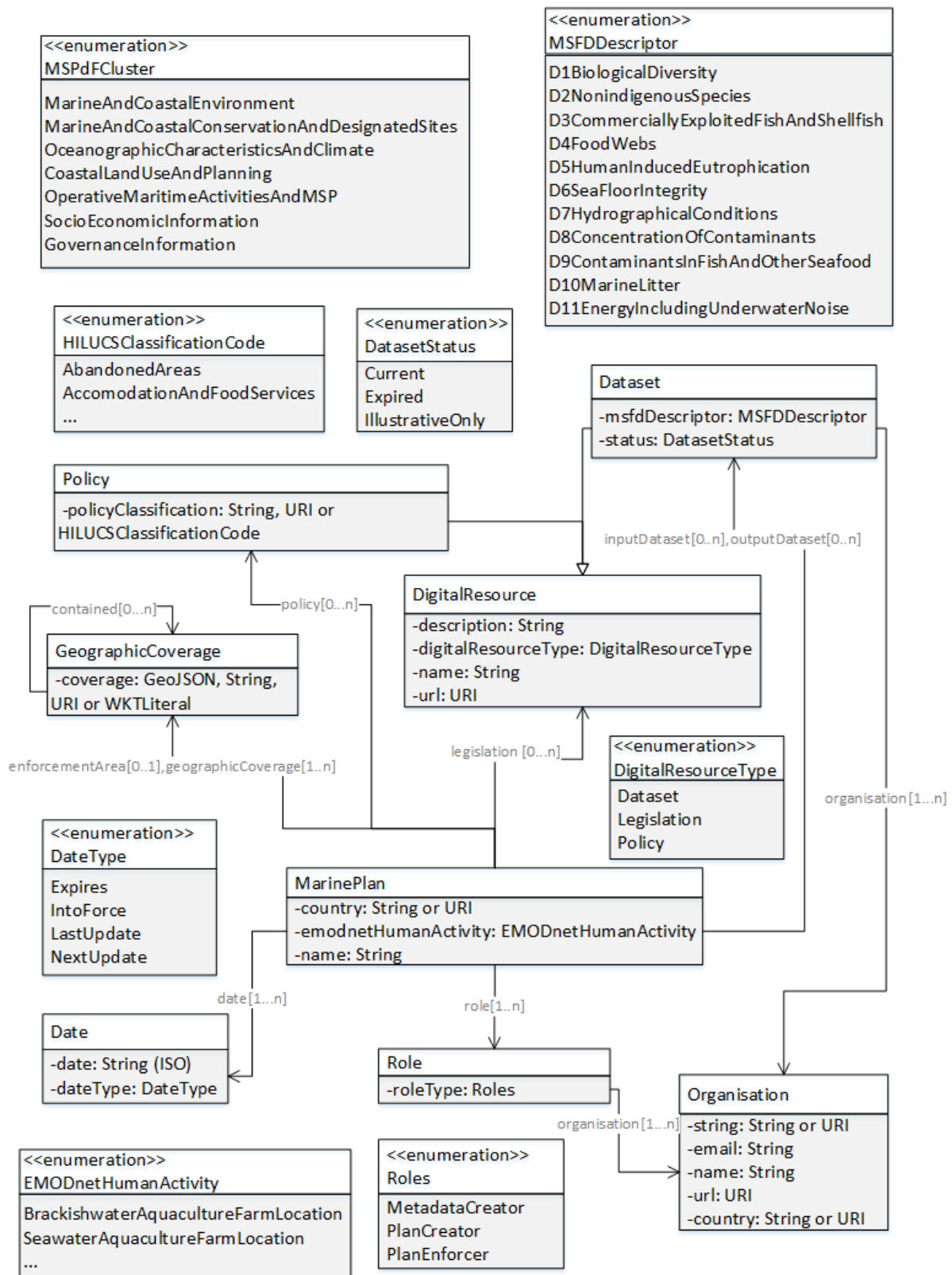


Figure 1: Metadata template overview



## 4. METADATA PROFILE SPECIFICATION

The profile consists of eight classes which are described in detail below, along with their associated properties. A detailed description of the metadata standard and its ontology can also be found at <https://irishmarineinstitute.github.io/metadata-profile-for-marine-plans/index.html>

### 4.1 Class: MarinePlan

#### Definition

A maritime spatial plan is a document, normally published by a government or a government agency, which sets out to analyse and allocate both spatially and temporally of human activity in marine areas to achieve ecological, economic and social objectives that have been specified through a political process.

#### Usage note

This is the base class of the metadata profile and represents the maritime spatial plan being described.

The following properties are specific to this class:

- emodnetHumanActivity
- enforcementArea
- geographicCoverage
- inputDataset
- legislation
- outputDataset
- policy
- role

The following property is shared with the Date class:

- date

The following property is shared with the DigitalResource and Organisation classes:

- name

The following property is shared with the Organisation class:

- country

#### 4.1.1 Mandatory properties

##### Property: Name

#### Definition

A label indicating the title given to a maritime spatial plan.

#### Range

String

#### Usage note

More than one name may be provided in order to provide the name of the Maritime Spatial Plan in multiple languages.

#### Usage note

For example, in Ireland the maritime spatial plan is known as "The National Marine Planning Framework".

##### Property: Country

#### Definition

A country to which the maritime spatial plan applies.

#### Range

String or URI

#### Usage note

It is recommended to use the ISO 3166-1 alpha-2 country code as the value of this property.

#### *Property: Date*

<b>Definition</b>	A date that applies to the maritime spatial plan, for instance, the date on which the plan came into force or on which it expires.
<b>Range</b>	Date
<b>Usage note</b>	At least two date properties must be linked from an instance of MarinePlan, the date on which the plan came into force and the date on which the plan expires.

#### *Property: geographicCoverage*

<b>Definition</b>	The geographic coverage of the area affected by the maritime spatial plan.
<b>Range</b>	GeographicCoverage
<b>Usage note</b>	At least one representation of the spatial coverage of the maritime spatial plan is required.

#### *Property: role*

<b>Definition</b>	An organisational role in the context of the maritime spatial plan.
<b>Range</b>	Role
<b>Usage note</b>	A maritime spatial plan can be associated with multiple roles.
<b>Usage note</b>	Role is a linking class that connects a maritime plan to the organisations responsible for its creation, monitoring, implementation and other activities via a description of these roles.

### **4.1.2 Optional properties**

#### *Property: emodnetHumanActivity*

<b>Definition</b>	The domains of human activity as defined by the European Marine Observation and Data Network that a maritime spatial plan relates to.
<b>Range</b>	EMODnetHumanActivity
<b>Usage note</b>	A maritime spatial plan can relate to multiple EMODnet human activities.

#### *Property: enforcementArea*

<b>Definition</b>	The geographic coverage of the enforcement area for the maritime spatial plan.
<b>Range</b>	GeographicCoverage

### **Property: *inputDataset***

<b>Definition</b>	A Dataset that was used in informing the development of the maritime spatial plan.
<b>Range</b>	Dataset

### **Property: *legislation***

<b>Definition</b>	The legislation either driving, informing or developed from a maritime spatial plan.
<b>Range</b>	DigitalResource

### **Property: *outputDataset***

<b>Definition</b>	A dataset created as part of the maritime spatial planning process.
<b>Range</b>	Dataset

### **Property: *policy***

<b>Definition</b>	An administrative policy set by local, regional or national government which informed the development of the maritime spatial plan or was informed by the maritime spatial plan.
<b>Range</b>	Policy

## **4.2 Class: Dataset**

<b>Definition</b>	A body of structured information describing some topic(s) of interest, or a collection of data, published or curated by a single agent, and available for access or download in one or more representations.
<b>Sub-class of</b>	DigitalResource
<b>Usage note</b>	This is a minimal class and can be extended with terms from the W3C's Data Catalogue Vocabulary, DCAT, or from the Schema.org Dataset class.

The following properties are specific to this class:

- msfdDescriptor
- status

The following properties are inherited from the DigitalResource class:

- description
- digitalResourceType
- name
- url

The following property is shared with the Role class:

- organisation

### 4.2.1 Mandatory properties

#### Property: organisation

<b>Definition</b>	The organisation responsible for the creation and maintenance of the dataset.
<b>Range</b>	Organisation

### 4.2.2 Optional properties

#### Property: mspdfCluster

<b>Definition</b>	A qualitative descriptor for one of the seven data clusters defined by the MSP Data Framework.
<b>Range</b>	mspdfCluster
<b>Usage note</b>	A dataset can relate to more than one data cluster. A maritime spatial plan should aim to incorporate data related to all seven clusters.

#### Property: msfdDescriptor

<b>Definition</b>	A qualitative descriptor for one of the eleven Marine Strategy Framework Directive descriptors to achieve the good environmental status, the reporting of which may be informed by the contents of the dataset.
<b>Range</b>	MSFDDescriptor

#### Property: status

<b>Definition</b>	The status of the dataset with respect to the maritime spatial plan.
<b>Range</b>	DatasetStatus
<b>Usage note</b>	The status of a dataset may be one of the following: <ul style="list-style-type: none"><li>• Current – dataset is currently valid in relation to a maritime spatial plan.</li><li>• Expired – dataset is not currently valid in relation to a maritime spatial plan.</li><li>• IllustrativeOnly – the dataset should be used for illustrative purposes only.</li></ul>

### 4.3 Class: Date

<b>Definition</b>	A date value.
<b>Usage note</b>	At least two dates must be linked to a MarinePlan for IntoForce and Expires.

The following properties are specific to this class:

- dateType

The following property is shared with the MarinePlan class:

- date

### 4.3.1 Mandatory properties

#### Property: date

<b>Definition</b>	The status of the dataset with respect to the maritime spatial plan.
<b>Range</b>	ISO 8601 formatted date string

#### Property: dateType

<b>Definition</b>	A classifier to explain the relationship of the specified date to the maritime spatial plan.
<b>Range</b>	DateType

## 4.4 Class: DigitalResource

<b>Definition</b>	An electronic file or document.
<b>Usage note</b>	This is a minimal class and can be extended with terms from the Schema.org CreativeWork class.

The following properties are specific to this class:

- description
- digitalResourceType

The following property is shared with the Organisation class:

- url

The following property is shared with the MarinePlan and Organisation classes:

- name

### 4.4.1 Mandatory properties

#### Property: name

<b>Definition</b>	A textual label that is the name of the digital resource.
<b>Range</b>	String
<b>Usage Note</b>	More than one name may be provided in order to provide textual labels for the digital resource in multiple languages.

#### Property: url

<b>Definition</b>	The Web address which can be used to access the digital resource.
<b>Range</b>	String or URI

#### Property: digitalresourceType

<b>Definition</b>	A classifier that describes the type of the digital resource.
<b>Range</b>	DigitalResourceType

#### 4.4.2 Optional properties

##### Property: description

<b>Definition</b>	A lexical description of the digital resource.
<b>Range</b>	String

#### 4.5 Class: GeographicCoverage

<b>Definition</b>	A description or representation of the spatial extent covered by a maritime spatial plan or the enforcement area of a maritime spatial plan.
<b>Usage note</b>	This is a minimal class and may be extended with properties from the Open Geospatial Consortium's GeoSPARQL ontology or the Schema.org Place class.
<b>Usage note</b>	In the case of multiple Maritime Spatial Plans the GeographicCoverage of each plan can be represented independently and then be nested via the containedIn property in order to represent hierarchies of spatial extents.

The following properties are specific to this class:

- containedIn
- coverage

##### 4.5.1 Mandatory properties

###### Property: coverage

<b>Definition</b>	A representation of the spatial extent of the geographic coverage of a maritime spatial plan.
<b>Range</b>	String, GeoJSON String, WKT literal, URI
<b>Usage note</b>	At a minimum, the ISO 3166-1 alpha-2 country code shall be provided
<b>Usage note</b>	Where possible a more detailed spatial coverage should be provided as a reduced polygon in GeoJSON or WKT or linked to from a Web Feature Service (WFS) or a Web Map Service (WMS) via a URI
<b>Usage note</b>	More than one serialisation of the coverage can be provided for an instance of geographic coverage.

##### 4.5.2 Optional properties

###### Property: containedIn

<b>Definition</b>	A connection from one geographic extent to another geographic extent which is larger than the former.
<b>Range</b>	String or URI
<b>Usage note</b>	The object of the relationship (i.e. the larger geographic extent) should wholly contain the subject of the relationship (i.e. the smaller geographic extent).
<b>Usage note</b>	More than one contained in relationship may be specified in order to link the geographic extent into multiple hierarchies or gazetteers.

## 4.6 Class: Organisation

<b>Definition</b>	A collection of people organized together into a structure such as a University or Government department or a Non-Governmental Organisation.
<b>Usage note</b>	This is a minimal class and can be extended with elements from the Friend of a Friend vocabulary, the W3C's Organization ontology or the Schema.org Organization class.

The following property is shared with the MarinePlan class:

- country

The following property is shared with the DigitalResource and MarinePlan classes:

- name

### 4.6.1 Mandatory properties

#### Property: name

<b>Definition</b>	A textual label that is the name of the organisation
<b>Range</b>	String
<b>Usage note</b>	More than one name may be provided in order to provide textual labels for the organisation in multiple languages. For example, Ireland's Marine Institute may have "Marine Institute" as its name in English and "Foras na Mara" as its name in Irish.

### 4.6.2 Optional properties

#### Property: country

<b>Definition</b>	The country in which the organisation's address is located
<b>Range</b>	String or URI
<b>Usage note</b>	It is recommended to use the ISO 3166-1 alpha-2 country code as the object of this property.

#### Property: email

<b>Definition</b>	An e-mail address which can be used as a contact point for the organisation.
<b>Range</b>	String or URI
<b>Usage note</b>	A generic, corporate e-mail address should be used, for example <a href="mailto:info@organisation.eu">info@organisation.eu</a> , in order to avoid any potential issues with regard to the European Commission's General Data Protection Regulation.

#### Property: url

<b>Definition</b>	The Web address of a page describing the organisation or the home page of the organisation's website.
<b>Range</b>	String or URI

## 4.7 Class: Policy

<b>Definition</b>	A statement of intent related to the maritime spatial plan that is implemented as by procedure or protocol.
-------------------	---

<b>Sub-class of</b>	DigitalResource
---------------------	-----------------

The following properties are specific to this class:

- policyClassification

The following properties are inherited from the DigitalResource class:

- description
- digitalResourceType
- name
- url

### 4.7.1 Optional properties

#### Property: policyClassification

<b>Definition</b>	A term that provides some level of classification describing the policy. It may refer to EU legislation or the Hierarchical INSPIRE Land Use Classification System.
-------------------	---

<b>Range</b>	String or URI
--------------	---------------

<b>Usage Note</b>	An example would be Euro-Lex URI which directly links to EU legislation eg. <a href="https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX%3A32014L0089&amp;qid=1682978339440">https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX%3A32014L0089&amp;qid=1682978339440</a>
-------------------	---

## 4.8 Class: Role

<b>Definition</b>	Denotes a role that an Organisation can take in the maritime spatial planning process.
-------------------	--

<b>Usage note</b>	Specific maritime spatial planning roles are defined in the RoleType vocabulary to endure consistency, although these may be extended with roles from other vocabularies as necessary.
-------------------	--

The following properties are specific to this class:

- roleType

The following property is shared with the Dataset class:

- organisation

### 4.8.1 Mandatory properties

#### Property: roleType

<b>Definition</b>	A classifier describing the specific role being fulfilled.
-------------------	--

<b>Range</b>	RoleType or URI
--------------	-----------------

<b>Usage note</b>	Where the role type is not from the RoleType vocabulary, the URI to a concept from another controlled vocabulary must be used.
-------------------	--



### Property: organisation

<b>Definition</b>	An organisation fulfilling the described role.
<b>Range</b>	Organisation
<b>Usage note</b>	More than one organisation may be associated with a given role.

## 5. EXAMPLE

Below is an example of the metadata associated with a use case for **Validity of a spatial plan**:

*As an aquaculture developer, I wish to discover the validity of a spatial plan: when did it come into force, when does it expire, how frequently is the plan updated so that I can understand when the plan applies to my activities.*

```
@base <https://www.gov.ie/en/publication/60e57-national-marine-planning-
framework/>.
@prefix msp: <https://purl.org/voc/marineplans#>.
@prefix dcat: <http://www.w3.org/ns/dcat#> .
@prefix dcterms: <http://purl.org/dc/terms/>.
@prefix sdo:<http://schema.org/>.
@prefix skos:<http://www.w3.org/2004/02/skos/core#>.
@prefix xsd:<http://www.w3.org/2001/XMLSchema#>.

<https://purl.org/voc/marineplans> a msp:MarinePlan ;
  msp:name "National Marine Planning Framework" ;
  msp:country "ie" ;
  msp:date :into_force, :expires ;
  msp:geographicCoverage
<http://atlas.marine.ie/arcgis/services/01_Maritime_Boundaries/MapServer/WM
SServer?request=GetCapabilities&service=WMS> ;
  msp:legislation :marine_area_planning_act ;
  msp:legislation :planning_and_development_ammendment_act_2018 ;
  msp:role :metadata_creator, :plan_creator, :plan_enforcer ;
  msp:emodnetHumanActivity :MaritimeBoundaries ;
  msp:dataset :input_dataset ;
  msp:policy :aquaculture .

:into_force a msp:Date ;
  msp:dateLiteral "2021-06-30"^^xsd:Date ;
  msp:dateType :IntoForce .

:expires a msp:Date ;
  msp:dateLiteral "2027"^^xsd:gYear ;
  msp:dateType :Expires .

:input_dataset a msp:Dataset ;
  msp:name "Seabed Sediment Classification";
  msp:url
<https://data.marine.ie/geonetwork/srv/eng/catalog.search#/metadata/ie.mari
ne.data:dataset.4005>;
  msp:organisation :marine_institute ;
  msp:msfdDescriptor :SeaFloorIntegritySupportsEcosystem ;
  msp:datasetStatus msp:Current .
```

```

:marine_institute a ms:Organisation ;
  msp:name "Marine Institute"@en, "Foras na Mara"@gle ;
  msp:country "ie" ;
  msp:url <https://www.marine.ie/Home/home> ;
  msp:email "institute.mail@marine.ie" .

:department_of_housing_local_government_heritage a msp:Organisation ;
  msp:name "Department of Housing, Local Government and Heritage"@en, "An
Roinn Tithíochta, Rialtais Aitúil agus Oidhreacht"@gle ;
  msp:country "ie" ;
  msp:url <https://www.gov.ie/en/organisation/department-of-housing-
local-government-and-heritage/> ;
  msp:email "qcsofficer@housing.gov.ie" .

:maritime_area_regulatory_authority a msp:Organisation ;
  msp:name "Maritime Area Regulatory Authority"@en ;
  msp:country "ie".

:aquaculture a msp:Policy ;
  msp:name "Aquaculture" ;
  msp:classification msp:Aquaculture;
  msp:url <https://marineplan.ie/?page=page_28&views=view_112> .

:metadata_creator a msp:Role ;
  msp:roleType msp:MetadataCreator ;
  msp:organisation :marine_institute .

:plan_creator a :Role ;
  msp:roleType msp:PlanCreator ;
  :organisation :department_of_housing_local_government_heritage .

:plan_enforcer a msp:Role ;
  msp:roleType :PlanEnforcer ;
  msp:organisation :maritime_area_regulatory_authority .

```

## 6. ALIGNMENT WITH OTHER METADATA STANDARDS

### 6.1 Alignment with DCAT

W3C's Data Catalogue Vocabulary (DCAT) is a Resource Description Framework (RDF) vocabulary for publishing data catalogues on the web. DCAT enables the interoperability of multiple data catalogues, increasing the discoverability of data. The template uses a minimal class which can then be extended by DCAT vocabularies.

DCAT is of particular interest for alignment with this metadata standard as it is used to drive many Open Data portals across Europe and the Geospatial application profile of DCAT is referenced by the European Infrastructure for Spatial Information.

The Dataset class of this metadata standard has been explicitly aligned with DCAT in the online RDF version of the standard.

### 6.2 Alignment with INSPIRE

INSPIRE is the Infrastructure for Spatial Information in the European Community Directive, that supports the sharing of spatial information across organisations and improves data discovery and public access online. This metadata profile uses the Hierarchical INSPIRE Land Use Classification System and will continue to evolving with any INSPIRE Framework advancements.

### 6.3 Alignment with Schema.org

Schema.org is a shared collection of schemas founded by Google, Microsoft, Yahoo and Yandex. It uses many different encodings, including RDF, Microdata and JSON-LD. It aims to maintain and promote structured data on the Internet. The template uses a minimal class which can then be extended by Schema.org.

Alignment with Schema.org is of particular interest in the development of this metadata standard as the OceanInfoHub of the United Nations' Decade of Ocean Science for Sustainable Development is using Schema.org to drive its data and metadata interoperability.

The Dataset, GeographicCoverage, MarinePlan, Organisation and Role classes and name, roleType and URL properties of this metadata standard have been explicitly aligned with Schema.org in the online RDF version of the standard.

### 6.4 Alignment with W3C Provenance Ontology

The World Wide Web Consortium's Provenance Data Model and its associated Ontology encodes information about entities, activities, and people involved in producing a piece of data or thing, which can be used to form assessments about its quality, reliability or trustworthiness.

The MarinePlan, Organisation and Role classes and organisation and role properties of this metadata standard have been explicitly aligned with W3C's Provenance Ontology in the online RDF version of the standard.

## 7. CONCLUSION

This document describes a metadata standard to follow for Maritime Spatial Plans. It is a simple metadata profile which follows and aligns with other metadata standards, including INSPIRE and DCAT. This is advantageous as the metadata can be extended using other vocabularies. The European Technical Expert Group (TEG) on Data for MSP have decided to adopt the recommendations of this approach. This standard will make EU Maritime Spatial Plans more discoverable online allowing for their reusability and interoperability across industries and countries promoting cross-boundary collaboration and enabling the sustainable future of our oceans.

## 8. REFERENCES

European Union, Infrastructure for Spatial Information in the European Community (INSPIRE) Directive: <https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32007L0002&from=EN>

European Union, Maritime Spatial Planning Directive: <https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32014L0089&from=EN>

European Union, Marine Strategy Framework Directive: <https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32008L0056&from=EN>

Wilkinson, M. D. *et al.* The FAIR Guiding Principles for scientific data management and stewardship. *Sci. Data* 3: 160018 doi: 10.1038/sdata.2016.18 (2016).

## **ANNEX 1: USE CASES**

### **1. Country, official title, English title**

As a member of the MSP Platform for Europe, I wish to discover the country or region a maritime spatial plan relates to, and its official title plus English title so that I can collate the available Marine Spatial Plans across the continent.

### **2. Responsible organisations**

As a tourism and leisure operator, I wish to discover the organisations responsible for a maritime spatial plan and their roles (plan creator, plan enforcer, metadata creator...) so that I can contact appropriate authorities to understand what permits I need for events I am running.

### **3. Organisational roles**

As an offshore energy developer, I wish to discover the roles of organisations connected with a maritime spatial plan (plan creator, plan enforcer, metadata creator, etc.) so that I can submit my plans to the relevant organisation.

### **4. Contact points**

As an expert on a neighbouring Marine Spatial Plan area, I wish to discover the contact points for the organisations responsible for a maritime spatial plan so that I can make contact regarding cross-border Marine Spatial Planning.

### **5. Territorial hierarchy**

As a local or regional authority, I wish to discover the territorial hierarchy a maritime spatial plan is operating in (INSPIRE Level of Spatial Plan codelist) so that I can understand how local marine Spatial Plans interact with regional or national plans or how the plans connect at a basin scale.

### **6. EMODnet Human Activities**

As a member of the national oceanographic data centre, I wish to make metadata concerning a maritime spatial plan available in the EMODnet Human Activities portal so that I can make my data better comply with the FAIR principles.

### **7. Validity of a spatial plan**

As an aquaculture developer, I wish to discover the validity of a maritime spatial plan: when did it come into force, when does it expire, how frequently is the plan updated so that I can understand when the plan applies to my activities.

### **8. Scale / geographic coverage**

As a Non-Governmental Organisation, I wish to discover the geographic coverage of a maritime spatial plan so that I can develop policy briefs based on an appropriate geographic area.

### **9. Scale of enforcement area**

As an expert developing a Marine Spatial Planning monitoring programme, I wish to discover the scale of the enforcement area for the maritime spatial plan (is there a buffer zone etc., around the enforcement area) so that I can assign appropriate resources to the monitoring programme.

### **10. Connections with MSFD**

As a national coordinator for MSFD reporting, I wish to discover connections between the maritime spatial plan and Marine Strategy Framework Directive reporting so that I can include relevant data from the Marine Spatial Planning process (for example, underwater noise monitoring) in MSFD reporting.

### **11. Policy links**

As an environmental consultant, I wish to discover links from the maritime spatial plan to supporting or informing policies, and to read descriptions of those policies so that I can provide the best advice on Marine Spatial Planning applications to my clients.

### **12. Policy classification**

As an author of a Marine Spatial Plan, I wish to discover the classification of policies linked to the maritime spatial plan according to the HILUCS scheme so that I can compare Marine Spatial Planning policies across Europe.

### **13. Related data - analysis**

As a conservation NGO, I wish to discover "input" data related to the maritime spatial plan, perhaps used in deriving or defining the plan so that I can analyse the input data, e.g. for assessing implementing Ecosystem Based Approach in the maritime spatial plan.

### **14. Related data - responsible parties**

As a port developer, I wish to discover the organisations responsible for maintaining the data related to the maritime spatial plan so that I can obtain the best available data from them.

### **15. Legal Context**

As a legal expert I would like to know the status of the "output" data (outdated/in force/for illustration) related to the maritime spatial plan in order to evaluate the accuracy of the claim against a specific activity contrary to this plan (e.g. lawyer/NGO pleading for the protection of seagrass beds against massive moorings of boats in a nature protection area).

### **16. Legislation**

I want to discover the laws underpinning or relating to the Marine Spatial Planning process in the area or country the maritime spatial plan relates to.

### **17. Spatial areas**

As a researcher I want to discover the planning areas or planning units related to a maritime spatial plan.

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