

# **Marine Environmental Data and Information Network (MEDIN)**

## **Annual Report for 2013-14**



***'Measure once, use many times'***

## 1 Highlights in 2013-14

- 1.1 Important progress has been achieved by MEDIN in 2013-14.
- 1.2 All MEDIN Data Archive Centres (DACs) showed an increase in the volume of data they hold and datasets are progressively more likely to be available online.
- 1.3 Requests for data from the well-established MEDIN DACs have increased in number substantially from last year, showing re-use of marine environmental data is becoming more widespread. Moreover, this data is increasingly available under the Open Government License, which gives users more freedom in how the data can be used.
- 1.4 Adoption of common standards for data and metadata is essential to support re-use of data. MEDIN workshops to inform the marine community about MEDIN data and metadata standards and encourage/facilitate their adoption attracted participants from over 30 organisations this year.
- 1.5 The MEDIN portal provides a single place to search UK marine environmental data held by many different organisations. Over 6,000 marine datasets can now be “discovered” on the MEDIN portal, which was upgraded this year to improve the search functionality and the display of the recovered metadata records.
- 1.6 Reference data layers provide the real world context or marine ‘base map’ for coastal data and information. Access to over 100 reference data layers has been vastly improved through the publication of new web pages which provide view and download access to these data.
- 1.7 MEDIN continues to provide important links to European and international initiatives, and has supported the marine community in meeting obligations to publish public data under the INSPIRE directive.
- 1.8 An independent review of MEDIN was held in 2013, which provided a series of recommendations for future focus and developments. The Review Panel indicated the following Key Recommendations should be seen as a priority for the future development of MEDIN. They are numbered here and referenced in the Work Stream Work Programmes:

**KR1:** To provide direct access to data from the MEDIN Data Discovery portal. This would substantially enhance the engagement of users in MEDIN.

**KR2:** Sponsoring organisations and their agencies need to ensure that MEDIN and its objectives are recognized as an integral part of their operational strategy. This will ensure that MEDIN is engaged and supported in a sustained way as an integral part of the UK marine data system.

**KR3:** To develop a stronger focus on making datasets, services and products (even if 3rd party) available through the MEDIN homepage and portal at least as metadata records. This would be of substantial benefit for users and be of benefit for both product providers and MEDIN itself.

**KR4:** To develop specific cost benefit examples of the value of MEDIN. These would provide clear evidence of the benefit of the MEDIN data infrastructure and clarity on the range of user requirements.

## 2 Progress against Key Performance Indicators

### Progress against Key Performance Indicators: 2013-14

2013-14 Key Performance Indicator	Progress	Link to WS Targets
<p>1. <b><u>Increase the content of the Portal</u></b></p> <p>a) The portal should provide comprehensive coverage of all marine data in the UK.</p> <p>b) 6000 metadata records by March 2014</p> <p>c) Increase in number of records accessible through MEDIN collected since 2007.</p>	<p><b>Fully Achieved</b></p> <p>Target (a) is being achieved - as shown in Appendix C, the portal coverage is comprehensive, with the top 5 categories covering Marine Geology, Marine Biodiversity, Anthropogenic properties, Physical Oceanography, and Bathymetry and Seafloor topography.</p> <p>Target (b) was achieved with the number of records in the portal reaching 6735 in March 2014 (for reference the number in September 2013 was 4831).</p> <p>Target (c) has been achieved – there are now 2527 records in the MEDIN portal relating to data collected since 2007 (in March 2013 there were 1326). This represents a 91% increase on last year.</p>	<p>KT 3.1</p>
<p>2. <b><u>Increase the use of the Portal</u></b></p> <p>Establish the portal as the recognized central source of information for marine data. Google analytics provide statistics against 2011-12</p>	<p><b>Not Achieved</b></p> <p>This target has not been achieved this year as evidenced by the static web usage over the last year (see plot in Appendix C)).</p>	<p>KT 3.2</p>
<p>3. <b><u>Consolidate the DAC network / increase the transfer and flow of data.</u></b></p> <p>Measures provided through the DAC Annual Reports, with respect to a 2012 baseline:</p> <p>a. number of new data sets archived within the MEDIN DACs within the year</p> <p>b. no. of requests for data received by DACs.</p> <p>c. no. of MSCC members sending data to DACs</p>	<p><b>Fully Achieved</b></p> <p>The DAC network has continued to grow with RCAHMS having submitted its accreditation documentation for becoming part of the Historic Environment DAC.</p> <p>The DAC annual report shows that:</p> <p>a) 1100 new datasets were archived in the DACs (three times more than in 2012-13)</p> <p>b) 499089 requests for data were received by the DACs (2.5 times more than 2012-13)</p> <p>c) All the DACs are receiving data from at least 1 MSCC member – the following DACs have multiple MSCC members supplying data:</p> <ul style="list-style-type: none"> <li>o BODC – 15</li> <li>o BGS – 8</li> <li>o DASSH – 8</li> <li>o UKHO – 9</li> </ul>	<p>KT1.1, KT1.3</p>
<p>4. <b><u>Maintain good communication &amp; linkage across relevant initiatives.</u></b></p> <p>Objectives are</p> <ul style="list-style-type: none"> <li>• to hold a partners meeting and standards workshops,</li> <li>• to publish 4 issues of Marine Data News and increase its circulation</li> </ul>	<p><b>Largely Achieved</b></p> <p>This objective was achieved, with the Partners meeting being held in November 2013, and 8 MEDIN training workshops being held throughout the country.</p> <p>This objective was largely achieved – the number of subscribers to Marine Data News increased by 30, with one subscriber cancelling. The total number of subscribers to Marine Data News stands at 620. Only 3 issues of Marine Data News were published due to short-term staffing issues around the time of the planned 4<sup>th</sup> issue.</p>	<p>KT1.2, KT2.1, KT 2.2, KT3.3, KT 6.1, KT 6.2, KT 6.3</p>

<ul style="list-style-type: none"> <li>• to enhance the access to information through the MEDIN website.</li> <li>• to publish metadata and linked data view and download services to data.gov (and hence INSPIRE)</li> </ul>	<p>There has been an increase in all metrics measured for use of the MEDIN website. In 2013/14, 53% of visitors were new. There was an 8% (13,656) increase in visits, a 6% (7,614) increase in visitors, and a 30% (61,715) increase in page views.</p> <p>The system for publication of selected portal records to data.gov.uk is now in place and there are 60 records from MEDIN published to data.gov.uk. There are a further 72 records to be added which have so far failed data.gov.uk validation and errors are currently being addressed.</p>	
<p><b>5. <u>To articulate the role of MEDIN within UK and European data initiatives</u></b></p> <p>Produce a report which articulates the role of MEDIN within UK, European, and other international data sharing initiatives and identifies the more strategic issues that need to be tackled to establish a joined-up system.</p>	<p><b>Not Achieved</b></p> <p>Staff shortages in 2013-14 meant that the report was not written. It will be carried forward to 2014-15.</p>	<p>KT4.1, KT 4.2, KT 4.3, KT 4.4</p>
<p><b>6. <u>Establish widespread adoption of standards for metadata and data.</u></b></p> <p>There will be three measures:</p> <ul style="list-style-type: none"> <li>• Number of new data sets arriving at DACs in MEDIN standard formats (reported by DACs)</li> <li>• Number of MSCC members that are enforcing the use of MEDIN standards.</li> </ul> <p>• Number of downloads / registrations for use of MEDIN tools</p>	<p><b>Largely Achieved</b></p> <p>Not able to measure</p> <p>11 MSCC members currently use the MEDIN discovery metadata standard (8 currently require sub contractors to use the standard). 5 MSCC members use the MEDIN data guidelines (1 member requires subcontractors to use the MEDIN data guidelines).</p> <p>There were:</p> <ul style="list-style-type: none"> <li>• 113 registrations for the Online Tool, bringing the total to 385 registrations – 42% increase</li> <li>• 149 downloads of Metadata Maestro, bringing the total downloads to 369 – 68% increase</li> <li>• 104 downloads of the ArcGIS v10.0 tool, bringing the total downloads to 367 – 40% increase</li> <li>•</li> </ul>	<p>KT 1.1, KT 1.3, KT 2.3</p>
<p><b>7. <u>Coordinate / provide access to reference data.</u></b></p> <p>Target is 60 reference datasets to be available through MEDIN portal.</p>	<p><b>Fully Achieved</b></p> <p>New pages for the MEDIN web site were created and the reference data catalogue populated with 109 datasets.</p>	<p>KT 5.1</p>
<p><b>8. <u>Assess MEDIN performance against user expectations and needs</u></b></p> <p>Report to be provided by Work Stream 5 based on a summary of the feedback provided to the Independent MEDIN Review</p>	<p><b>Underway</b></p> <p>Following the MEDIN Review, comments by MSCC and outcomes from the Partner meeting, a process has now started to identify the 'data products and services' of importance to MEDIN partners.</p>	<p>KT 5.2</p>

2.1 2013-2014 was the third year under the current three year (2011-14) Business Plan. In this period MEDIN is moving to an operational phase from a developmental

phase, albeit with a 30% reduced level of funding, from £763k per year before 2011 to £528k in the last year.

2.2 Priorities in the MEDIN Business Plan, addressed in the 2013-14 Work Plan, are identified by the 2013-2014 Key Performance Indicators (KPIs, see table above)

2.3 Referring to the KPI table above, 5 of the 8 Key Performance Indicators have been largely or fully achieved, and a further one is well underway.

2.4 **KPI 1 – Increase the Content of the Portal:** The MEDIN portal has seen an impressive increase in content this year, increasing from 4831 records in Sept 2013 to 6735 in March 2014 (a 39% rise). This year has seen an increased flow of metadata from providers, including from DECC, the Channel Coastal Observatory, UKHO, the Cefas FishDAC and Marine Scotland FishDAC. This shows that the MEDIN portal is being actively populated by a wide range of organisations, indicating that MEDIN is achieving its goal of getting a comprehensive coverage of all marine data in the UK.

The number of records in the Portal relating to data collected since 2007 increased significantly this year, resulting in over a third of the records now relating to data collected since 2007.

2.5 **KPI 2 – Increase the Use of the Portal:** Portal usage over the year has remained static. This is considered to be due to a lack of marketing activity, which has been held back due to the need to wait for Portal Upgrades to be completed, and for the code to be transferred to BODC. The transfer of the code will also allow better logging of usage statistics in the future. It is anticipated that web statistics for portal usage will increase following advertising the portal across the marine community next year.

2.6 **KPI 3 – Consolidate the DAC Network / Increase the transfer and flow of data**

The DAC Network is continuing to grow, with RCHAMS recently having submitted their DAC Accreditation documentation, and a plan of action being developed to establish an agreed approach for standards and deposition of Historic Environment data. For the Fisheries DAC, work is underway to transfer data from the English Inshore Fisheries and Conservation Authorities into DASSH.

Work on addressing gaps in marine data management is also progressing well, with draft position papers having been produced on litter, noise and socio-economic data.

The DAC annual report shows that during the past FY:

- 1100 new datasets were archived in the DACs
- 499089 requests for data were received by the DACs
- All the DACs are receiving data from at least 1 MSCC member – the following DACs have multiple MSCC members supplying data:
  - BODC – 15
  - BGS – 8
  - DASSH – 8
  - UKHO - 9

## **2.7 KPI 4 – Maintain Good Communication and Linkage Across Relevant Initiatives**

A successful Partners meeting was held in November 2013, and 8 MEDIN training workshops were held during the year at various venues throughout the country.

The total number of subscribers to Marine Data News stands at 620: the number of subscribers increased by 30, with one subscriber cancelling. Only 3 issues of Marine Data News were published due to short-term staffing issues around the time of the planned 4<sup>th</sup> issue.

There has been an increase in all metrics measured for use of the MEDIN website. In 2013/14, 53% of visitors were new. There was an 8% (13,656) increase in visits, a 6% (7,614) increase in visitors, and a 30% (61,715) increase in page views.

The system for publication of selected portal records to data.gov.uk is now in place and there are 60 records from MEDIN published to data.gov.uk. There are a further 72 records to be added which have so far failed data.gov.uk validation and errors are currently being addressed.

## **2.8 KPI 5 – Articulate the Role of MEDIN within UK and European Initiatives.**

Due to staff shortages in the second half of 2013-14 the report was not written. It will be carried forward to 2014-15. A table already exists providing an overview of European and international initiatives and programmes including information such as the aims and drivers of the initiative, who is involved or leads for the UK, how initiatives are linked and MEDIN's input. The table will be reviewed and revised and will form the basis of the report. It will be extended to include UK initiatives, for example, UK-IMON.

## **2.9 KPI 6 - Establish widespread adoption of standards for metadata and data**

MEDIN have made great progress in updating the data guidelines in order to radically simplify the format. The new guidelines have been reviewed as being fit for purpose and easy to use. It is anticipated that this will increase the uptake of the standards.

The MCA has confirmed that the revised bathymetry guidelines are now aligned with the survey specifications for the Civil Hydrography Programme. Also the Crown Estate requires that all data collected for Renewables Round 3 sites comply with MEDIN Guidelines.

This year 8 workshops to assist existing and new users of MEDIN metadata standards, data guidelines and associated tools have been held in conjunction with MEDIN partners. The workshops attracted attendees from over 30 organisations from both the public and private sector.

MEDIN is supporting implementation of the INSPIRE directive by providing a coordination role for the marine sector (in conjunction with the DACs), to ensure that relevant marine data complies with INSPIRE standards, and reporting to the Defra INSPIRE implementation team. MEDIN is supporting bodies, where requested, by publishing metadata records to data.gov.uk (and hence INSPIRE), and is providing INSPIRE data view and download services through the MEDIN DAC network. The DACs are making swift progress on implementing INSPIRE with BGS, UKHO and DASSH all providing both view and download services, and RCAHMS, the Marine Scotland FishDAC and the ADS all providing view services. The DAC Annual Report 2012/13 provides detail on INSPIRE view and download services provided by the DACs. MEDIN have ensured that the data guidelines now encompass INSPIRE requirements from the final versions of the relevant INSPIRE data specifications that were released during the year.

## 2.10 KPI 7 - Coordinate and provide access to reference data

New pages for the MEDIN web site were created and the reference data catalogue populated with 109 datasets.

MEDIN continued to encourage data owners to undertake the following activities:

1. Enter metadata for the datasets identified as reference datasets by WS5
2. Make these datasets available for download via a link accessible from the MEDIN portal
3. Develop web services for these datasets so they can be consumed more widely in end user applications
4. Prepare and publish an improvement plan for these datasets.

Progress on these activities has been less than planned due to resource constraints and other factors outside of MEDIN's control. Where progress has been made this has been helped by data owners needing to meet their obligations under INSPIRE.

## 2.11 KPI 8 - Assess MEDIN performance against user expectations and needs

A highlight of the year was the Independent Review of MEDIN, which reported in Aug 2013, concluding that the MEDIN initiative has been, and continues to be, a sound investment in UK marine data infrastructure. In particular, the Review Panel noted with satisfaction that:

- MEDIN is making data more widely available in the UK marine domain through enabling their discovery;
- MEDIN is highlighting and facilitating data management issues and standards and the related resources within individual organisations and that this has led to improvement in practices;
- The distributed structure with DACs, all linked to a central portal with a solid management organisation maintaining it, is a good approach to dealing with diverse organisations and data management cultures.
- MEDIN creates a (positive) pressure to conform to data standards

## 3 Financial Summary 2013-14

3.1 £533,000 was available to fund MEDIN activities in 2013-14 from Sponsors as indicated in the table below

Sponsor Name	Funding
DEFRA: Department of Environment Food and Rural Affairs	£175,000
NERC: Natural Environment Research Council	£131,000
Scottish Government	£100,000
DECC: Department of Energy and Climate Change	£30,000
Met. Office	£14,000
Natural Resources Wales	£14,000
Environment Agency	£14,000
Marine Management Organisation	£14,000

Maritime and Coastguard Agency	£7,000
The Crown Estate	£7,000
UK Hydrographic Office	£7,000
HR Wallingford	£5,000
Joint Nature Conservation Committee	£5,000
Northern Ireland Environment Agency / Agri-Food Biosciences Institute	£5,000
Oceanwise	£5,000
<b>TOTAL</b>	<b>£533,000</b>

**MEDIN Sponsors for 2013-14**

- 3.2 The use of funds across work streams, and according to category, is given in the table below. Of the £524,284 total spend, £298,945 was allocated to cover the costs of employment of the MEDIN Core Team (2.9 Full Time Equivalent staff members in 2013-14); £12,291 on Travel and Subsistence, and £213,048 on contracts which both contributed to the maintenance and operation of the MEDIN network as well as some of the developments described in this report. The major items of external expenditure in 2013-14 are given in Appendix B.
- 3.3 The Work Streams with the highest allocation of costs were the DACs (WS1), Management (WS7), Portal (WS3), and then Standards (WS2) – all with costs of more than £90,000. WS4 (International Links), WS5 (Resources and Applications, and WS 6 (Communications), had costs of less than £40,000.
- 3.4 According to these provisional figures, an end of year under-spend of £8,716 is anticipated. NERC has confirmed these funds can be carried forward for use by MEDIN in 2014-15

Total MEDIN income 13/14	£	Actual spend	£	Work stream	£
<i>Sponsor funds</i>	<i>£533,000</i>	<i>Employment Costs of Core Team</i>	<i>£298,945</i>	<i>WS1: DACS</i>	<i>£127,181</i>
		<i>Travel and Subsistence</i>	<i>£12,291</i>	<i>WS2: Standards</i>	<i>£100,180</i>
		<i>Contracts</i>	<i>£213,048</i>	<i>WS3: Portal</i>	<i>£103,240</i>
				<i>WS4: International Links</i>	<i>£11,519</i>
				<i>WS5: Resources and Applications</i>	<i>£21,834</i>
				<i>WS6: Communications</i>	<i>£37,272</i>
				<i>WS7: Management</i>	<i>£123,058</i>
<b>Total Available</b>	<b>£533,000</b>	<b>Total spend</b>	<b>£524,284</b>		<b>£524,284</b>

**MEDIN Spend in 2013-14, by category and by work stream**



## 4 MEDIN Work Streams 2013-14

4.1 Detailed summaries of the activities of the seven MEDIN Work Streams for 2013-14 are in Appendix C. Highlights are provided below:

### ***WS1 Network of Data Archive Centres***

4.2 In addition to the progress highlighted previously in section 2.6, the main highlights for WS1 have included:

- The archiving of a large number of datasets by the DACs – more details about this can be found in the MEDIN DAC Annual report (available at [http://www.oceannet.org/library/key\\_documents/key\\_docs.html](http://www.oceannet.org/library/key_documents/key_docs.html)). As part of their archiving work, the DACs have been involved in preparations (including holding two workshops) for archiving data from the surveys of possible Marine Conservation Zone sites that were commissioned by Defra over the winter of 2012-13. Unfortunately no prior provision was made to support the (one-off) cost of archiving these data and MEDIN does not have the resource to support these costs. Although Defra has been able to provide funding support for archiving costs incurred in the current financial year, it is not certain that funding will be available to complete the archiving process in 2014-15.
- INSPIRE compliance amongst the DACs is increasing with 3 DACs providing INSPIRE compliant view and download services, and 4 DACs providing INSPIRE compliant view services.
- MEDIN is working in coordination with the Marine Management Organisation, Marine Scotland, and a steering group on Activities and Pressures, set up under the UK Marine Monitoring and Assessment Strategy, to establish a common approach to improve management of, and access to, marine socio-economic data.
- Draft position papers on litter, noise and socio-economic data have been produced.
- All well-established DACs have seen substantial increases since last year in numbers of data requests, thereby indicating that DAC products are seen as increasingly useful.
- All DACs showed an increase in data holdings, with the Met Office and BODC adding substantial numbers of observations to existing datasets, and the rest of the DACs reporting an increase in the overall number of datasets held.
- Increasingly data from the MEDIN DACs are being made available under the Open Government Licence (OGL) for data. Data from NERC, UKHO, the bulk of data from CEFAS, and key locational attributes for RCAHMS Site records are now made available under this licence.
- The DACs have been actively increasing the numbers of datasets available online as follows:
  - At BODC there are 2,275 more series available online than last year (a 2% increase)
  - UKHO have made available 57 historical Civil Hydrography Programme (CHP) datasets, that have been digitised from the analogue fair sheets
  - DASSH now have 2438 datasets on the MEDIN portal, which is a 23.5% increase from 2012/13

- The RCAHMS national inventory comprising over 296,000 records with over 30,000 relating to maritime losses is now described in the MEDIN portal
- The Marine Scotland FishDAC now have 36 Records available on the MEDIN portal with discovery metadata. 21 records have online resources available
- The DACs have been actively implementing innovative new services for archiving data and making it available for reuse including:
  - the use of Digital Object Identifiers enabling the citation of data sets,
  - the launch of a numerical model data portal for searching, visualising and downloading numerical model data,
  - developing streamlined protocols for managing data collected by ocean gliders.
  - Enabling DAC users to watch videos from online collections
  - Developing electronic data capture systems

### ***WS2 Standards for Data and Metadata***

4.3 The success of WS2 is highlighted by the comment from the MEDIN review that 'MEDIN creates a (positive) pressure to conform to data standards'

4.4 In addition to the progress highlighted in section 2.9, and the INSPIRE progress highlighted in WS1, the highlights for WS2 include:

- The continuing popularity of the standards workshops, attracting 55 attendees from 33 organisations, demonstrating that partners and stakeholders are aware of the importance of adopting the common standards promoted by MEDIN
- A series of updates to the user interface of the metadata creation tools provided by MEDIN in response to user demand.

### ***WS3 Web Portal Products and Services***

4.3 In addition to the impressive increase in numbers of metadata records in the Portal, and other progress highlighted in section 2.4, the main highlights for WS3 include:

- The enhancements to the Portal interface which have focussed on improving direct links from metadata to data, by:
  - Using a traffic light system to indicate the ease with which data can be accessed through the metadata
  - Grouping together of records with identical access paths (ie Resource locator points to the same service URL)
  - Increasing the amount of information available through the 'Online resources present' field, to enable users to more quickly establish what is available through links provided in the metadata
- UKDMOS has been upgraded to include enhancements such as enabling WMS capability, as well as improvements to map symbology, and enhancements to the search interface.
- DASSH has continued to be under contract to MEDIN to provide valuable metadata support and facilitate the flow of records into the portal

## ***WS4 International Awareness, coordination and data delivery to global databases***

4.4 The main highlights for WS4 include:

- MEDIN has continued to support the marine community in meeting obligations to publish public data under the INSPIRE directive, by providing a coordination role and reporting on progress to the DEFRA INSPIRE implementation team. MEDIN is supporting bodies, where requested, by publishing metadata records to data.gov.uk (and hence INSPIRE), and will provide INSPIRE data view and download services through the MEDIN DAC network.
- MEDIN has continued to provide the UK focus for input to the development of the European Marine Observation and Data Network (EMODnet)
- MEDIN continues to work with DEFRA in liaising with the EEA and relevant working groups for providing the necessary access to the data underlying the initial assessment to the Marine Strategy Framework Directive. UKDMOS (the UK Directory of Marine Observing Systems), a MEDIN maintained resource, will be an important tool in collating information on the monitoring programmes for reporting to the EC. Some enhancements to its mapping functionality are being developed, as described above.
- MEDIN provided the UK focus for input to the development of the European Marine Observation and Data Network (EMODnet) (an initiative supported by the EC Directorate of Maritime Affairs to provide access to European marine data). EMODnet is especially important in terms of agreeing appropriate linkage with the European Marine Strategy Framework Directive reporting.

## ***WS5 Resources and Applications Development***

4.5 In addition to the progress highlighted in section 2.10, the main highlights for WS5 include:

- A new version of the Marine Gazetteer was released and was included in the portal search function.
- Following the MEDIN Review, comments by MSCC and outcomes from the Partner meeting, a process was started to identify the 'data products and services' of importance to MEDIN partners. This process will continue and pilots will be developed during the course of 2014/15.
- Following the recommendation of the MEDIN review team that MEDIN should "develop a stronger focus on making datasets, services and products available", a paper: "MEDIN's Role in Products and Services: A discussion paper for the Sponsors Board (Nov 2013) and input to the MEDIN Business Plan" was written to consider options and invite comment and guidance.

## ***WS6 Communications: Outreach, forums, publicity***

4.6 In addition to the marked increases in visits, visitors and pageviews for the MEDIN website, and the increases in subscribers to Marine Data News (as highlighted in the table on p4), other highlights from WS6 include:

- The home page, followed by the Marine Data Standards pages were the most popular

- The partners meeting in Nov 2013 was a success, attracting 64 attendees.

### ***WS7 Management, Planning and Coordination***

4.7 WS7 highlights include:

- Contributing and responding to the independent review of MEDIN which concluded that the MEDIN initiative has been, and continues to be, a sound investment in UK marine data infrastructure
- Producing a 5 year Business Plan based on the MEDIN review recommendations, that has been proposed to the MEDIN sponsors
- A short document was produced to summarise MEDIN's planned support to MSFD implementation

## 5 Progress against MEDIN Business Plan 2008-13

5.1 Progress against the objectives of the five-year MEDIN Business Plan is provided below

2013 Objectives	Progress
1. Single point of access to all marine data	<b>Achieved: Portal online</b> – operational from June 2010. Contained 6,735 metadata records by March 2014. Emphasis now on moving towards complete coverage of all key marine data sets, and improving linkage between metadata records and data view / download capabilities.
2. Network of integrated Data Archiving Centre (DACs).	<b>Achieved: Comprehensive DAC network in place.</b> The network now includes 7 accredited DACs covering geology & geophysics, oceanography, marine species and habitats, bathymetry, marine meteorology, fisheries and historic environment
3. Provision of priority data sets to underpin UK and EU legislative and obligatory requirements	<b>Work in progress:</b> European Marine Strategy Framework Directive and INSPIRE are priorities. MEDIN is working closely with DEFRA, UKMMAS and UK Location to develop processes to meet the necessary obligations. Once these processes are in place this will be an ongoing responsibility
4. Facilitation of data flow to DAC network for all government sponsored contracts	<b>Work in progress:</b> MEDIN is working with partners to establish data flow to DACs. Meetings are held with key agencies and pilot projects supported to establish data submission processes and identify any problem areas. For example case studies are underway for Defra funded Marine Coastal Zone (MCZ) data and for MALSF data sets.
5. The necessary links with EU Directives & initiatives	<b>Achieved:</b> Necessary links have been established through activities under WS4, such as the DIKE Technical Sub-Group and EMODnet projects. It is now a matter of ongoing work.
6. Measurable reductions in costs of locating, accessing and retrieving marine data	<b>Work in progress:</b> Partners have been asked to report on practical benefits, but have found it difficult to provide accurate estimates of financial benefits. MEDIN is planning to establish some case studies during FY 2014/15.
7. An increased number of successfully furnished requests for archived marine environmental data	<b>Work in progress</b> DACs are required to monitor and report as part of their annual reporting requirement. Just over 499,000 requests for data were received in 2013-14 (including online requests), more than double that received in 2012-13. The largest increase was in requests for DASSH data through the NBN gateway.

## 6 Look ahead for 2014-15

6.1 MEDIN has issued a new Business Plan to cover the 5 year period 2014-19, to take into account the recommendations of the MEDIN Review. The overall objective for the 2014-19 period is to consolidate the adoption of MEDIN across the UK as the national framework for marine data management, so that organisations across all marine sectors will be making use of MEDIN resources and experiencing the benefits of vastly increased re-use of marine data.

6.2 A new series of 10 High Level Objectives have been identified as necessary to achieve this aim, against which progress can be measured. These are listed below. For each HLO we have identified the major contributing work streams (WS1: DACs, WS2: Standards, WS3: Portal, WS4: International Links, WS5: Resources and Applications, WS6: Communications, WS7: Management):

**HLO1** Ensure the MEDIN framework (DAC network, standards, metadata portal) is adopted across the UK within organisations' (public and private sector) operational data strategy. WS1, WS2, WS3, WS7

**HLO2** Establish a coordinated approach for archiving and retrieving marine data within the MEDIN DAC network with support for users. WS1, WS2

**HLO3** Working closely with data.gov.uk, support the UK marine sector in meeting INSPIRE obligations to publish metadata and provide compliant data view and download services for all public data covered by the directive. WS1, WS2, WS4

**HLO4** Ensure that the MEDIN discovery portal contains the most comprehensive coverage of marine data held by UK organisations, thereby enabling wide-ranging and dynamic access to UK Marine data, UK Marine Reference data, view and download services and other data products in line with user requirements. WS1, WS3

**HLO5** Store, manage and make available UK monitoring data for use in MSFD assessment, according to the agreed approach. WS1, WS3, WS4, WS7

**HLO6** Provide access to defined key data services and priority common data products WS3, WS5

**HLO7** Promote the re-use of data resulting in a sustained increase in the number of successfully furnished requests for archived data from the public, government and industry. WS1, WS4

**HLO8** Develop and provide a suite of easy to use data guidelines to be adopted across the marine sector, including MSCC members as a standard condition of funding for data collection. WS2, WS7

**HLO9** Provide tangible case studies demonstrating the value of using the MEDIN framework when locating, accessing and retrieving data for projects. WS7

**HLO10** Raise the profile of MEDIN in the academic and private sectors, attracting further members to the network and widening the sources of data. WS2, WS6, WS7

6.3 As was mentioned in section 4.2, there have been issues relating to the costs for archiving data from the surveys of possible Marine Conservation Zone sites that were commissioned by Defra over the winter of 2012-13. Although Defra has been able to provide funding support for archiving costs incurred in the current financial year, it is not certain that funding will be available to complete the archiving process in 2014-15. MEDIN strongly recommends that when new data collection is being commissioned, funding is allocated to ensure the data are securely archived at a MEDIN Data Archive Centre.

## 7 Summary

7.1 MEDIN continues to build collaboration in marine environmental data management in the UK, and through the MEDIN data management framework has established better coordinated access to the UK's marine data resources. This framework offers a single point of access to UK marine data, a network of accredited marine Data Archive Centres, and a suite of standards for data and metadata.

7.2 The network of Data Archive Centres accredited by MEDIN has now grown to seven to include Fisheries and Historic Environment data and provides coverage across all main marine environmental themes. A period of consolidation and operation is now expected.

7.3 The coverage of the MEDIN portal has also grown significantly and now includes records for over 6,000 data sets. Enhanced search functionality has been developed, and a new version of the Marine Gazetteer was released and has been included in the portal search function.

7.4 MEDIN continues to provide important links to European and international initiatives, and supports the marine community in meeting obligations to publish public data under the INSPIRE directive. This includes providing the UK focus for input to the development of the European Marine Observation and Data Network (EMODnet).

7.5 MEDIN also continues to work with DEFRA in liaising with the EEA and relevant working groups for providing the necessary access to the data underlying the initial assessment to the Marine Strategy Framework Directive.

7.6 New pages for the MEDIN web site have been created, and the reference data catalogue populated with 109 datasets. Following the MEDIN Review, comments by MSCC and outcomes from the Partner meeting, a process has now started to identify the 'data products and services' of importance to MEDIN partners. This process will continue and pilots will be developed during the course of 2014/15.

7.7 Gaps in MEDIN's marine data management coverage are being addressed though draft papers having been produced on marine litter, underwater noise and socio-economic data

7.8 The Independent review of MEDIN that reported in Aug 2013 concluded that the MEDIN initiative has been, and continues to be, a sound investment in UK marine data infrastructure. Its recommendations have informed the development of the next 5 year Business Plan that has been proposed to the MEDIN sponsors.

7.9 The adoption of MEDIN standards and practices has been supported by a series of well-attended workshops held at various venues across the country. It is encouraging that more partners and initiatives are becoming pro-active in requiring the adoption of MEDIN standards.

7.10 The challenge facing MEDIN now is to consolidate the adoption of MEDIN across the UK as the national framework for marine data management, so that organisations across all marine sectors will be making use of MEDIN resources and experiencing the benefits of vastly increased re-use of marine data.

## APPENDIX A: MEDIN Aims, Benefits, Priority Drivers and Organisational Arrangements

### A.1 MEDIN aims, benefits, and priority drivers

1. MEDIN is a collaborative and open partnership, established in April 2008, working to improve the management of marine data and information, and provide better access to the UK's marine data resources. Sponsors include government departments, research councils, environmental and conservation agencies, trading funds and commercial organisations. It operates under the auspices of the Marine Science Coordination Committee (MSCC), and reports to that body.
2. MEDIN **aims** to establish a coordinated framework for managing marine data and information, with the following key objectives:
  - A single point of access to all relevant marine data and information.
  - A robust network of definitive integrated Data Archiving Centres (DACs).
  - The provision through the DAC network of priority data sets to underpin UK and EU legislative and obligatory requirements, for monitoring and marine planning, in line with INSPIRE principles.
  - Facilitation of full data flow to the DAC network for all government sponsored contracts in the marine and coastal zone environment.
  - Coordinate input to the development of international data commitments and drivers that may influence marine data management in the UK.
  - Improve mechanisms to facilitate international data exchange (including contributing to global databases).
  - Develop and maintain new/existing MEDIN resources that support improved access to marine data (data catalogues and inventories, data products, services, guidelines and tools).
3. Marine data and information are acquired, maintained and used for a wide variety of different purposes by numerous public and private sector organisations to support their statutory, regulatory, development, commercial and compliance activities. Common to all these activities is the recognition that good quality comprehensive marine data and information are essential as input to good management and evidence based decision making.
4. MEDIN is working to **benefit** its stakeholders in the following five key areas:
  - Marine Monitoring: Enabling UK organisations to meet their obligations under National and International Environmental Legislation.
  - Marine Management and Planning: Supporting a harmonised and improved marine management regime in UK seas.
  - Supporting Scientific Research: Delivery of the UK Marine Science Strategy.
  - Increasing availability of marine data to the public: Making marine environmental data more widely available in accordance with the aims of the UK government's Open Data Policy and the European INSPIRE directive.
  - Cost Reduction: Addressing inefficiencies and reducing costs for data collection and re-use.



5. Each of these **priority drivers** requires improved access to marine environmental information.

#### Marine Monitoring

6. The UK Government and devolved administrations have adopted a shared vision for clean, healthy, safe, productive and biologically diverse oceans and seas. Specific legislative drivers that relate to this vision include commitments to international treaties, such as the OSPAR Convention, and requirements of European Union Directives, such as The Birds Directive, The Habitats Directive, The Water Framework Directive, and the Marine Strategy Framework Directive. The EU Marine Strategy Framework Directive, with the stated aim of achieving Good Environmental Status for European Seas by 2021, extends the responsibility for monitoring and managing the marine environment out to national limits. Together these obligations demand an ever increasingly complex set of environmental quality and status assessments supported by formal, evidence-based, uses of marine data and information.
7. All these drivers depend on a robust and relevant monitoring regime, generating a variety of raw, processed and interpreted marine data, and access to authoritative, consistent background or base information to provide historical and spatial context. The UK Marine Monitoring and Assessment Strategy (UKMMAS), established to coordinate marine monitoring in the UK, is predicated on a fully operational robust national framework for marine data and information to provide the necessary data management support.
8. Thus MEDIN is working closely with UKMMAS to help ensure the data needed are more easily accessible. A key driver for the immediate future is getting ready for reporting data and information for the Marine Strategy Framework Directive. MEDIN is helping by providing expert input to the working groups developing plans for data and information provision to the EU.

#### Marine Management and Planning

9. A major objective of the Marine Acts passed by the Westminster and Holyrood parliaments in 2009 and 2010 respectively is the harmonization and integration of the marine licensing and spatial planning regime and a unified approach to marine conservation zone / marine protected area selection. This involves the review and analysis of a wide range of marine environmental data. Without access to authoritative marine data and information the Marine Management Organisation (MMO), Marine Scotland and the bodies with the equivalent responsibilities in Wales and Northern Ireland, will not be able to carry out their functions.
10. Marine planning will require a wide range of existing data resources to be improved, new datasets created and new methodologies and tools developed. Whilst the delivery bodies are in the process of developing and testing tools, the precise details of what data are required within the system are still evolving. MEDIN has a vital role in helping to define, facilitate access to and improve the reference data that will be required to deliver marine plans. This includes specifying data products, providing guidance on how these are created, supported, maintained and improved and how the quality of these data products are assessed and communicated to users.

#### Supporting Marine Scientific Research

11. The UK Marine Science Strategy, published by the Marine Science Coordination Committee in 2010, sets out a framework for enabling the delivery of world class marine science for the UK. The strategy highlights the need to foster a culture of

data sharing and good management, including common protocols for data collection and quality assurance for data obtained and specifically identifies the key role MEDIN has to establish this in the UK.

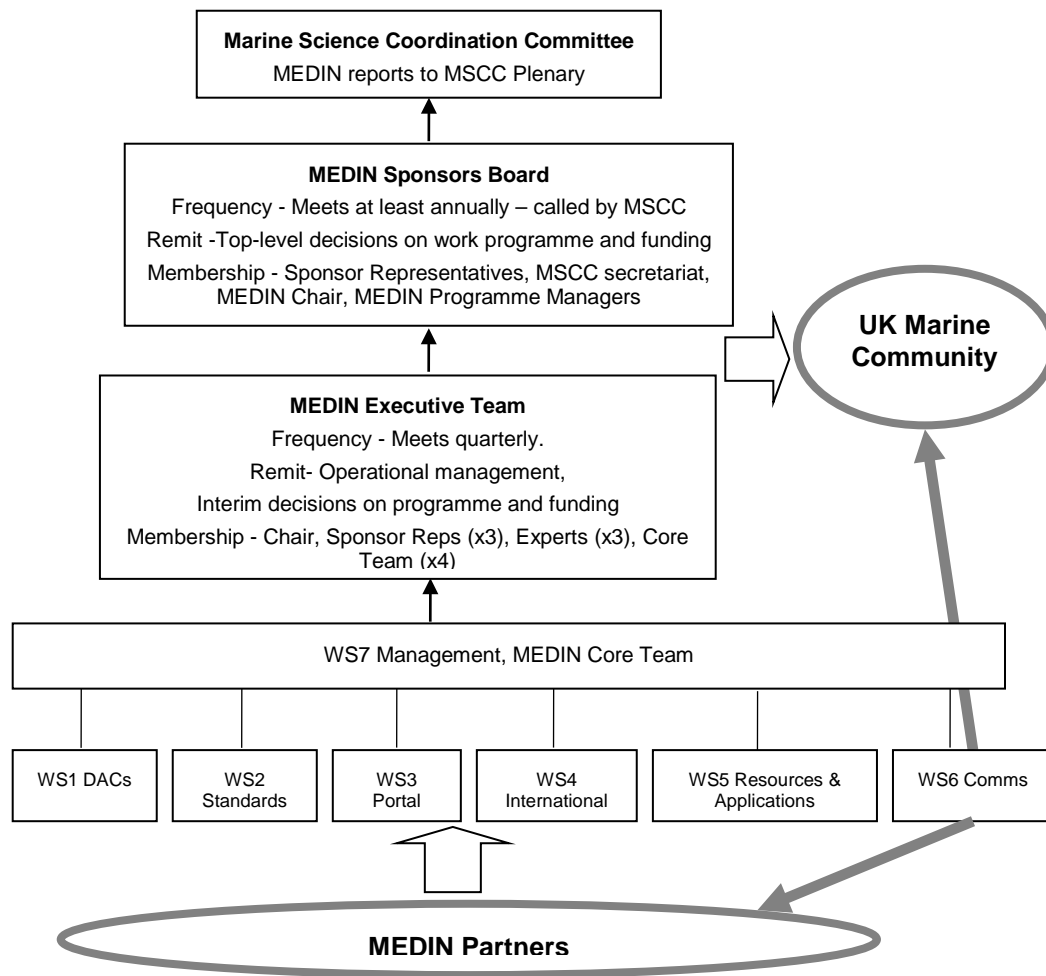
*Publishing Marine Data to the Public – INSPIRE, UK Location and Data.gov.uk*

12. In recent years there has been an increasing demand for wider access to spatial and environmental data, addressed by a number of national, European and international initiatives. The European INSPIRE (Infrastructure for Spatial Information in Europe) Directive places obligations on bodies holding public spatial information in terms of the way they manage, present and describe these data. Nationally, data.gov.uk and the Coalition Government's Transparency Agenda is driving the release of all public service information, including geographic and marine information, under common licence terms through a consistent and open set of technologies. The data.gov.uk portal enables the central searching of metadata from a variety of sources and resources are being developed to help public sector bodies meet their obligations under INSPIRE, as well as FOI, EIR and ROPSI legislation.
13. MEDIN is working closely with the above initiatives to tailor and develop additional resources specific to the marine domain, as well as informing and providing the necessary guidance for preparing and publishing marine specific data and metadata. The UK geoportal will harvest metadata published to the MEDIN portal and reference geographies established within the UK Location infrastructure extended to include MEDIN specified marine and coastal reference data. Overall, MEDIN will provide the insight and coordination required to ensure the marine community realises the benefits of these wider initiatives, whilst at the same meeting the needs, developing the resources and providing the required leadership to the marine sector.

*Cost Reduction and Efficiency Gains*

14. Everyone in the marine sector stands to benefit from efficiency gains in data access and re-use. The wide range of potential beneficial impacts include:
  - Improved capture and re-use of industry and research generated data to save industry money and achieve better value from public and private funding.
  - Research to be better informed and coordinated with less replication of effort and collaboration opportunities more easily identified.
  - Wider availability of data to support transparency in decision-making.
  - Reductions in the proportion of project budgets spent on locating, accessing and retrieving marine data.

## A.2 MEDIN Organisational arrangements



15. The Marine Science Coordination Committee (MSCC) is the parent body for MEDIN; it provides strategic direction to MEDIN and defines high-level goals. MEDIN reports to MSCC, through this annual report and shorter progress updates as requested. MSCC has requested that MEDIN supports a representative on the MSCC communications group.
16. The MEDIN Sponsors' Board is the executive body, responsible for approving budgets and work plans. It will meet at least once each year, to be called by MSCC. The current chair of the MEDIN Sponsors' Board and the Executive Team is Professor Peter Liss, CBE FRS.
17. The MEDIN Executive Team meets quarterly, with the remit to provide interim guidance and management of the MEDIN work programme between Sponsors Board meetings.
18. The MEDIN work programme is carried out within seven work streams (see Figure above). Work stream leaders have been appointed and are responsible for the management and planning of the work stream activities.
19. A MEDIN core team of five staff is hosted the British Oceanographic Data Centre, which provides administrative and logistic support to MEDIN. The MEDIN core team provides project management, leadership for six of the seven work streams and secretariat support.

## Organisations active in MEDIN

*red indicates sponsor*

<b>ABPmer</b>	Marine Environmental Consultancy, ( <a href="http://www.abpmer.co.uk">www.abpmer.co.uk</a> )	<b>HR Wallingford</b>	Marine consultancy. ( <a href="http://www.hrwallingford.co.uk">www.hrwallingford.co.uk</a> )
<b>ADS</b>	Archaeological Data Services Accredited MEDIN DAC <a href="http://archaeologydataservice.ac.uk/">http://archaeologydataservice.ac.uk/</a>	<b>IFCA</b>	Inshore Fisheries and Conservation Authorities See links at <a href="http://www.southern-ifca.gov.uk/">http://www.southern-ifca.gov.uk/</a>
<b>AFBI</b>	Agri-Food and Biosciences Institute (Northern Ireland), ( <a href="http://www.afbini.gov.uk">www.afbini.gov.uk</a> )	<b>IMAREST</b>	Institute for Marine Science and Technology. ( <a href="http://www.imarest.org.uk">www.imarest.org.uk</a> )
<b>Atkins Global</b>	Consultancy <a href="http://www.atkinsglobal.com/">http://www.atkinsglobal.com/</a>	<b>JohnPepper Consultancy</b>	Consultancy <a href="http://www.johnpepperconsultancy.com/home">http://www.johnpepperconsultancy.com/home</a>
<b>BGS</b>	British Geological Survey, Accredited MEDIN DAC ( <a href="http://www.bgs.ac.uk">www.bgs.ac.uk</a> )	<b>JNCC</b>	Joint Nature Conservation Committee. ( <a href="http://www.jncc.gov.uk">www.jncc.gov.uk</a> )
<b>BODC</b>	British Oceanographic Data Centre, Accredited MEDIN DAC ( <a href="http://www.bodc.ac.uk">www.bodc.ac.uk</a> )	<b>Mainstream Renewable Power</b>	Offshore Renewables <a href="http://www.mainstreamrp.com">http://www.mainstreamrp.com</a>
<b>CEFAS</b>	Centre for Environment Fisheries and Aquaculture Science, ( <a href="http://www.cefas.co.uk">www.cefas.co.uk</a> )	<b>Marine Atlas</b>	Consultancy <a href="http://marineatlas.co.uk/">http://marineatlas.co.uk/</a>
<b>The Crown Estate</b>	<a href="http://www.thecrownestate.co.uk/">http://www.thecrownestate.co.uk/</a>	<b>Marine Conservation Society</b>	UK Charity <a href="http://www.mcsuk.org/">http://www.mcsuk.org/</a>
<b>DASSH</b>	Data Archive for Seabed Species and Habitats, hosted at MBA. Accredited MEDIN DAC. ( <a href="http://www.dassh.ac.uk">www.dassh.ac.uk</a> )	<b>MMO</b>	Marine Management Organisation ( <a href="http://www.marinemangement.org.uk">http://www.marinemangement.org.uk</a> )
<b>DECC</b>	Department of Energy and Climate Change, ( <a href="http://www.decc.gov.uk">www.decc.gov.uk</a> )	<b>MPC</b>	Marine Planning Consultants <a href="http://www.marineplanning.org.uk/">http://www.marineplanning.org.uk/</a>
<b>DEFRA</b>	Department for Environment Food and Rural Affairs. ( <a href="http://www.defra.gov.uk">www.defra.gov.uk</a> )	<b>Marine Scotland Science</b>	<a href="http://www.scotland.gov.uk/topics/marine">http://www.scotland.gov.uk/topics/marine</a>
<b>EA</b>	Environment Agency. ( <a href="http://www.environment-agency.gov.uk">http://www.environment-agency.gov.uk</a> )	<b>MBA</b>	Marine Biological Association ( <a href="http://www.mba.ac.uk">www.mba.ac.uk</a> )
<b>EDINA</b>	Unit of Edinburgh University. Provides GI services for academic Community. ( <a href="http://www.edina.ac.uk">www.edina.ac.uk</a> )	<b>MCA</b>	Maritime and Coastguard Agency. ( <a href="http://www.mcga.gov.uk">www.mcga.gov.uk</a> )
<b>English Heritage</b>	<a href="http://www.english-heritage.org.uk">www.english-heritage.org.uk</a>	<b>MES</b>	Marine Ecological Surveys <a href="http://www.seasurvey.co.uk/">http://www.seasurvey.co.uk/</a>
<b>Finding Sanctuary</b>	A project aiming to create a network of Marine Protected Areas of the South West Coast of England. ( <a href="http://www.finding-sanctuary.org">www.finding-sanctuary.org</a> )	<b>Met Office</b>	<a href="http://www.metoffice.gov.uk">www.metoffice.gov.uk</a>
<b>Fugro Geos</b>	Met-Ocean Services <a href="http://www.geos.com/">http://www.geos.com/</a>	<b>MOD</b>	Ministry of Defence. ( <a href="http://www.mod.uk">www.mod.uk</a> )
<b>Gardline Group</b>	Marine services <a href="http://www1.gardline.com/">http://www1.gardline.com/</a>	<b>Natural England</b>	<a href="http://www.naturalengland.org.uk/">http://www.naturalengland.org.uk/</a>
<b>Geodata</b>	Consultancy based at University of Southampton, specialising in environmental data management. ( <a href="http://www.geodata.soton.ac.uk">www.geodata.soton.ac.uk</a> )	<b>NRW</b>	Natural Resources Wales ( <a href="http://www.naturalresourceswales.gov.uk">www.naturalresourceswales.gov.uk</a> ) <i>formerly CCW, Countryside Council for Wales</i>
<b>Historic Scotland</b>	<a href="http://www.historic-scotland.gov.uk">www.historic-scotland.gov.uk</a>	<b>NERC</b>	Natural Environment Research Council, ( <a href="http://www.nerc.ac.uk">www.nerc.ac.uk</a> )
		<b>NIEA</b>	The Northern Ireland Environment Agency, ( <a href="http://www.ni-environment.gov.uk">www.ni-environment.gov.uk</a> )
		<b>OceanWise Ltd</b>	Private independent consultancy specialising in marine data acquisition, management and GIS

[www.oceanwise.eu](http://www.oceanwise.eu)

<b>Ordnance Survey</b>	<a href="http://www.ordnancesurvey.co.uk/oswebsite/public-sector/index.html">http://www.ordnancesurvey.co.uk/oswebsite/public-sector/index.html</a>
<b>RCAHMS</b>	Royal Commission on the Ancient and Historic Monuments of Scotland <a href="http://www.rcahms.gov.uk">www.rcahms.gov.uk</a>
<b>RCAHMW</b>	Royal Commission on the Ancient and Historic Monuments of Wales <a href="http://www.rcahmw.gov.uk">www.rcahmw.gov.uk</a>
<b>RES Offshore</b>	Renewable energy development <a href="http://www.res-offshore.com/">http://www.res-offshore.com/</a>
<b>SAMS</b>	Scottish Association for Marine Science <a href="http://www.sams.ac.uk">www.sams.ac.uk</a>
<b>Senenergy</b>	Renewable energy development <a href="http://www.senenergyworld.com/home">http://www.senenergyworld.com/home</a>
<b>Scottish Government</b>	<a href="http://www.scotland.gov.uk">www.scotland.gov.uk</a>
<b>SNH</b>	Scottish Natural Heritage <a href="http://www.snh.org.uk">www.snh.org.uk</a>
<b>SeaZone</b>	Commercial Company delivering marine GI products, <a href="http://www.seazone.com">www.seazone.com</a>
<b>SETech</b>	Geo-Technical Surveying and Engineering <a href="http://www.setech-uk.com/">http://www.setech-uk.com/</a>
<b>SEPA</b>	Scottish Environment Protection Agency. <a href="http://www.sepa.org.uk">www.sepa.org.uk</a>
<b>SSMEI</b>	Sustainable Scotland Marine Environment Initiative. <a href="http://clydeforum.org/SSMEI">clydeforum.org/SSMEI</a> ) and <a href="http://www.nafc.ac.uk/Marine_Management/General/SSMEI">www.nafc.ac.uk/Marine_Management/General/SSMEI</a> )
<b>Titan Surveys</b>	Marine environmental Surveys <a href="http://titansurveys.com/">http://titansurveys.com/</a>
<b>UHI</b>	University of the Highlands and Islands <a href="http://www.uhi.ac.uk/en">http://www.uhi.ac.uk/en</a>
<b>UKHO</b>	United Kingdom Hydrographic Office. MEDIN Accredited DAC for Bathymetry data <a href="http://www.ukho.gov.uk">www.ukho.gov.uk</a>
<b>Wessex Archaeology</b>	<a href="http://www.wessexarch.co.uk">www.wessexarch.co.uk</a>

## Glossary

<b>AGI</b>	Association for Geographical Information		
<b>CTD</b>	“Conductivity, Temperature, Depth” – shorthand for a standard water column profile measurement of temperature and salinity against depth	<b>UKDMOS</b>	UK Directory of Marine Observing Systems – an initiative under the UK Marine Monitoring and Assessment Strategy to provide information on marine monitoring programmes.
<b>DAC</b>	Data Archive Centre		
<b>DIKE</b>	Data, Information and Knowledge Exchange	<b>UKLP</b>	UK Location Programme
<b>EMODNET</b>	European Marine Observation and Data Network	<b>UKMMAS</b>	UK Marine Monitoring and Assessment Strategy. The UK government led programme to coordinate marine monitoring necessary to meet government objectives of a clean, healthy, safe, productive and biologically diverse marine ecosystem ( <a href="http://www.defra.gov.uk/environment/water/marine/uk/science/monitoring.htm">see www.defra.gov.uk/environment/water/marine/uk/science/monitoring.htm</a> )
<b>FRS</b>	Fellow of the Royal Society		
<b>GEMINI2</b>	Discovery metadata standard managed by the AGI and adopted by data.gov.uk		
<b>GTS</b>	Global Telecommunications System		
<b>HBDSEG</b>	Healthy and Biologically Diverse Seas Evidence Group	<b>WISE</b>	Water Information System for Europe, a joint initiative between the European Environment Agency and the European Commission.
<b>IACMST</b>	Inter Agency Committee on Marine Science and Technology ( <a href="http://www.marine.gov.uk">www.marine.gov.uk</a> )		
<b>ICES</b>	International Council for the Exploration of the Sea		
<b>INSPIRE</b>	Infrastructure for Spatial Information in Europe, EC Directive ( <a href="http://inspire.jrc.it/">inspire.jrc.it/</a> )		
<b>IOC</b>	Intergovernmental Oceanographic Commission		
<b>IPR</b>	Intellectual Property Rights		
<b>ISO</b>	International Organisation for Standards		
<b>MDN</b>	Marine Data News		
<b>MEDIN</b>	Marine Environmental Data and Information Network		
<b>MMO</b>	Marine Management Organisation.		
<b>MSCC</b>	Marine Science Coordination Committee		
<b>NGO</b>	Non Governmental Organisations		
<b>OSPAR</b>	International Commission for the Protection of the Marine Environment of the North-East Atlantic ( <a href="http://www.ospar.org">www.ospar.org</a> )		
<b>OPSI</b>	Office of Public Sector Information		

## APPENDIX B: External Expenditure

### Work Stream 1: Data Archive Centres

Major Items of External Expenditure:

BGS DAC costs contribution	BGS	£11,000
BODC DAC Costs contribution	BODC	£11,000
DASSH DAC costs contribution	DASSH	£11,000
UKHO DAC Costs contribution	UKHO	£11,000
Met Office DAC Costs contribution	Met Office	£11,000
Heritage DAC Costs contribution	ADS	£6,048
Heritage DAC Costs contribution	RCAHMS	£178
Update UK Benthos	DASSH	£2,100
DOI's to Oasis Records	ADS	£1,475
Preparations for MCZ survey data archiving	DASSH	£22,885
Preparations for MCZ survey data archiving	BGS	£10,954
HC Staff support	HC Consultants	£2,250
<b>Total</b>		<b>£100,890</b>

### Work Stream 2 Standards

Major Items of External Expenditure:

Standards Working Group Support April-October-2013	DASSH	£9,748
Metadata Maestro and standards workshop support	Seazone	£16,270
Catering costs for standards workshops	Foresight Centre	£479
Teleconference costs	BT	£381
Catering for seabed survey stds workshop	IMAREST	£109
ARC Stylesheets upgrade	HC Consultants	£1,125
Workshop catering costs Oct 8/9 2013	NOC Southampton	£400
License for MSBIAS	Algaebase	£1,200
Standards WG Support (November 2013 - March 2014)	DASSH	£13,751
Stds Working Group Catering	MRC	£300
Stds Workshop Catering		£176
Standards testing	MPC	£6,000
Draft protocols for disparate data sets	Fugro EMU	£1,200
<b>Total Spend to Date</b>		<b>£51,138</b>

### Work Stream 3: MEDIN Website, Portal and Webtools

Major Items of External Expenditure:

Maintenance of the UKDMOS website	Maris	£1,500
Provision of Metadata Service to MEDIN by STFC	STFC	£9,649
MEDIN Metadata Support (to Oct 2013)	MBA	£11,070
Portal Upgrade Completion	GeoData Institute	£2,875
Portal Hosting and Public source code repository for MEDIN portal code	GeoData Institute	£1,667
Updates to UKDMOS	Maris	£7,563
MEDIN Metadata Support (To March 2014)	MBA	£2924
Work Stream Support (including managing UKDMOS updates)	HC Consultants	£2,700
<b>Total</b>		<b>£39,948</b>

### Work Stream 5: Mapping and Applications

Major Items of External Expenditure:

Reference Layer Web Pages and Cruise Data Base	HC Consulting	£1,800
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### Work Stream 6: Communications

Major Items of External Expenditure:

Marine Data News	Newsweaver	£642
Meeting registration	CoastMS	£186
Meeting registration / sponsorship	Challenger Society	£350
Technical Support	HC Consulting	£2,700
1000 new MEDIN leaflets (editing and printing)	Graphics Workshop	£714
Bob Earll email advert for Events	CoastMS	£312
Venue Hire and Catering (Partners Meeting)	Institute of Education	£3,090
Representing MEDIN at Coastal Futures, IMCC	DASSH	£982
<b>Total</b>		<b>£8976</b>

### Work Stream 7: Management

Major Items of External Expenditure:

Chairing MEDIN meetings	Peter Liss	£4,900
Representing MEDIN at PSEG	Oceanwise	£2,412
Meeting Costs	Various	£171
MARG / HBDSEG Support	MBA	£221
Hardware (laptop)	Dell	£792
WS Support	HC Consultants	£1,800
<b>Total</b>		<b>£10,296</b>

NB There were no major items of External Expenditure in WS4



## APPENDIX C: Work Stream Deliverables

### ***WS1 Network of Data Archive Centres***

1. WS 1 covers the management of the DAC Working Group to facilitate the effective and coordinated operation of the DACs under the MEDIN banner.
2. Consolidation of the DAC network has progressed well, with RCAHMS having submitted its accreditation document, and a plan of action is under development to establish an agreed approach for standards and deposition of data. For the fisheries DAC work is underway to transfer data from the English Inshore Fisheries and Conservation Authorities into DASSH.
3. Work on addressing gaps on marine data management is also progressing well, with draft position papers having been produced on litter, noise and socio-economic data.
4. Substantial progress has been made on INSPIRE compliance within the DACs. Work to ensure compliance over the year has included:
  - a. UKHO making 1409 surfaces available through view and download services
  - b. DASSH making the following datasets available as view or download services:
    - i. 55 datasets from the DASSH Web Accessible Folders
    - ii. 500+ datasets from the NBN gateway
    - iii. 20 datasets from data.gov.uk
  - c. The RCAHMS national inventory now has a view service
  - d. The Marine Scotland FishDAC have made 2 datasets (providing access to more than 150 data layers) available as view services
  - e. BGS have made the following available as view services:
    - i. Sample points and geophysical lines from Marine Surveys ([www.bgs.ac.uk/GeoIndex/offshore.htm](http://www.bgs.ac.uk/GeoIndex/offshore.htm)). A Web Map Service is also available.
    - ii. Oil and Gas Site Survey data ([www.bgs.ac.uk/GeoIndex/offshore.htm](http://www.bgs.ac.uk/GeoIndex/offshore.htm))
    - iii. The Maremap portal ([www.maremap.ac.uk](http://www.maremap.ac.uk))
    - iv. UK Continental Shelf hydrocarbon well collection/photos (<http://www.bgs.ac.uk/data/offshoreWells/wells.cfc?method=searchWells>)
    - v. The Strategic Environmental Assessment Portal ([www.bgs.ac.uk/data/sea/home.html](http://www.bgs.ac.uk/data/sea/home.html)) provides a View Service, and also has a download service for all data under 100MB (est. 13,500 files). Larger files are not suitable for download, but are available on request. It is also available as a Web Map Service.
  - f. The ADS now has 126 collections available as view services, and 60 collections available as download services
5. One of the major responsibilities of the DACs is to increase DAC coverage through expanding the number of datasets archived and made available by the DACs each year. Of the well-established DACs, both DASSH and UKHO have seen big increases in the numbers of datasets archived in the past year, with all

DACs (except BODC and the Met Office<sup>1</sup>) reporting increases in numbers of datasets held. More information on this is available from the DAC Annual Report 2013/14.

**DAC Deliverables Table 2013-14**

<b>Deliverable</b>	<b>Status</b>	<b>Commentary</b>
<b>Q1</b> DAC Annual Reports (2012-13) according to pro-forma (KT1.1)	Completed	This is a required element of accreditation for DACs. Reports for 2012-13 are available and summary information has been extracted and included in the MEDIN Annual Report 2012-13.
Reports (and metadata records) from funded data archiving projects (KT1.3)	Ongoing	This is a required element of MEDIN funded DAC archiving projects. Status table for projects requires updating.
Report on progress in providing INSPIRE compliant view and download services (DACs to review and update INSPIRE spreadsheet)(KT1.2)	In progress	Reviewed at DAC WG. DACS meeting INSPIRE compliance
Marine Conservation Zone Survey (MCZ) data workshop (CEFAS led)	Completed	Workshop held and report available.
<b>Q2</b> Marine Historic Environment DAC consolidation – RCAHMS accreditation finalised (KT1.1)	In progress	Meeting held with Historic Environment group. RCAHMS submitted draft accreditation note.
Data flow: test how the process is working, by tracing data from a single programme, from archiving through to access. (KT1.1, KT1.3)	In progress	Being taken forward via 2 case studies: 1) MCZ data – review with CEFAS what collated and where destined – data management plan 2) MALSF – update spreadsheet and report on status of data and use
Response to review of socio-economic data (KT1.1)	Awaiting input from MARG and PSEG;	Position Paper is in preparation with PML and EMU (alongside MBA the original authors of the SE Data Review). MS and MMO have been consulted and paper is due to be completed by end of Jan.
Establish a data flow plan with IFCAs	In progress	DASSH working with IFCAs to produce plan for DAC WG IFCAs in contact but slow going.
First DAC WG meeting (KT1.1)	Completed	Held 16 October
<b>Q3</b> FishDAC (AFBI) accreditation finalised (KT1.1)	Delayed due to lack of resource at AFBI	CEFAS/Marine Scotland to lead and report to DAC Working Group and MEDIN Exec. AFBI to be asked to confirm position
Workshop on management/provision of data for MSFD GES descriptors (target D5 Eutrophication?) (KT1.1)	Waiting for UKMMAS	UKMMAS to identify relevant data sets and programmes (due by July 2014). MEDIN look at archiving arrangements, whether there are metadata records and how the data can be accessed.

<sup>1</sup> The Met Office added 6.3 million observations to its databases, and BODC added many records to its existing databases.

Assess requirements for Litter Data (KT1.3)	Draft completed	Draft paper produced; awaiting review
Respond to review and create overview 2014-2017 plan for WS1	Draft completed	Draft work plan completed: includes challenges in response to review
<p><b>Q4</b></p> <p>Second DAC WG meeting (KT1.1)</p> <p>Historic Environment DAC consolidation - Plan of Action for an agreed approach for standards and deposition of data (KT1.1)</p> <p>Assess requirements for Noise Data (KT1.3)</p>	<p>Paper in progress</p>	<p>Planned for Q4</p> <p>Aim to have it in place and ready for promotion at IFA (Institute for Archaeologists) conference in April 2015</p> <p>With Underwater Sound Forum leading. MEDIN to produce joint statement (N.B. G Evans is chair of the Underwater Sound Forum correspondence group on noise)</p>

## **WS2 Standards for Data and Metadata**

Standards are essential to support locating and evaluating marine data sets, to provide guidelines for the generation and preparation of data according to recognised standards and best practice, and to help partners meet their obligations under the INSPIRE directive. This aspect of MEDIN activity aims to establish, promote, document and provide guidance for standards for data and metadata to cover an expanding range of data types.

In 2013-14, in agreement with the MEDIN Standards Working Group the following work key targets were established:

- KT2.1 Consolidate and improve usability of MEDIN data guidelines
- KT2.2 Hold at least 4 workshops to disseminate MEDIN standards to the wider community
- KT2.3 Ensure coordination with national and international initiatives

All work has been completed as follows:

- An updated format to radically simplify the format of the MEDIN data guidelines, without diluting their content, has been developed. The revised format followed directly from a workshop with the bathymetry data community, to address ongoing issues with the usability of the MEDIN bathymetry data guideline. Subsequently, the updated format has been applied to 9 priority MEDIN data guidelines. A pilot study, carried out to test the usability of three of the new format data guidelines in the commercial sector, found that the guidelines are fit for purpose and easy to use, although further streamlining was recommended.
- Workshops to assist existing and new users of MEDIN metadata standards, data guidelines and the associated tools are an effective way to inform the marine community about MEDIN, as well as providing practical training sessions for users of the MEDIN tools. This year 8 workshops have been held in conjunction with MEDIN partners in Liverpool, Southampton, Edinburgh and London (BODC, NOC, BGS, The Crown Estate). Half of the workshops focused on the MEDIN discovery metadata standard and the tools that MEDIN supplies to create and validate discovery metadata, and half focused on the MEDIN data guidelines. The workshops attracted attendees from over 30 organisations from both the public and private sector.
- MEDIN maintains close links with those involved with data.gov.uk and the DEFRA team charged with implementing the INSPIRE directive. The final versions of the relevant INSPIRE data specifications were released during the year and MEDIN continues to evaluate how to ensure all INSPIRE requirements are encompassed in the MEDIN data guidelines, in conjunction with MEDIN data archive centres.

In addition, other work completed in 2013-2014 includes:

- The MEDIN Discovery Metadata Standard is the standard which underpins the portal and allows people to create metadata that is INSPIRE compliant via the various tools we have produced. There have been minor changes to the standard to reflect updates to GEMINI2 and INSPIRE and these changes have filtered down to the MEDIN tools.
- Monitoring the registrations/downloads of the three tools MEDIN supply for creating and validating MEDIN metadata were monitored at DASSH and BODC. In total 385 people are registered for the MEDIN Online Tool, an increase of 98 from last year, 369 people have downloaded Metadata

Maestro and 367 (126) have downloaded the tools to convert metadata from the Geographical Information System software ARC10 (and ARC9) to MEDIN discovery metadata.

- Feedback indicated that users found Metadata Maestro, a standalone tool to create and validate MEDIN discovery metadata, rather unintuitive to use. The Crown Estate commissioned SeaZone to carry out a series of updates to make the tool more user friendly. This work is in progress.
- The MEDIN tool to create MEDIN discovery metadata using ArcGIS software was out of date. Three updated versions have been created and are now undergoing final checks.
- The MEDIN data guidelines webpage has been revised to make it easier for users to find the relevant information.
- The updated leisure and recreation data guidelines published by the MMO in conjunction with MEDIN are now available on the MEDIN website.
- Controlled vocabularies provide an unambiguous way to refer to commonly used words or phrases. Five new controlled vocabularies associated with socio-economic data have been created and are being governed by MEDIN: MEDIN socio-economic governance objective categories, MEDIN monitoring activity categories, MEDIN ecosystem valuation method types, MEDIN ecosystem valuation methods, MEDIN ecosystem service types.
- Steve Wilkinson stepped down as co-chair of the Standards Working Group. Ulric Wilson, also from JNCC, has taken up the role.

### Standards Deliverables Table 2013-14

Deliverable	Status
<p><b>Q1</b>            Hold MEDIN Standards Meeting and agree how to meet aims of the work programme</p> <p>Plan and advertise 4 workshops</p> <p>Hold seabed survey workshop and agree how to simplify guidelines</p> <p>Finalise and promote new leisure and recreation data guideline</p> <p>Highlight a “good practice” MEDIN discovery metadata record on website</p> <p>Make MEDIN data guidelines webpage more user friendly</p>	All Completed
<p><b>Q2</b>            Hold at least 1 workshop</p> <p>Review final INSPIRE data specifications and identify implications for MEDIN Data Guidelines</p> <p>Promote use of MEDIN data Guidelines with contractors</p>	<p>Completed</p> <p>Ongoing. The specification were finalised in December 2013 and this review is ongoing with the MEDIN DACs.</p> <p>Completed</p>
<p><b>Q3</b>            Hold MEDIN standards meeting</p> <p>Hold at least 1 workshop</p> <p>Review underwater noise data guideline</p> <p>Provide tick sheets for all MEDIN data guidelines</p> <p>Highlight a “good practice” completed data guideline on website</p>	<p>Completed</p> <p>Completed</p> <p>On going</p> <p>Completed</p> <p>Ongoing. This was delayed due to need to use</p>

<p>Respond to review and create overview 2014-2017 plan for WS2</p>	<p>the revised format data guidelines in the example of "good practice" Completed</p>
<p><b>Q4</b> Hold at least 1 workshop  Stds Work Plan for 2014-15  Stds Report for 2013-14</p>	<p>All completed</p>

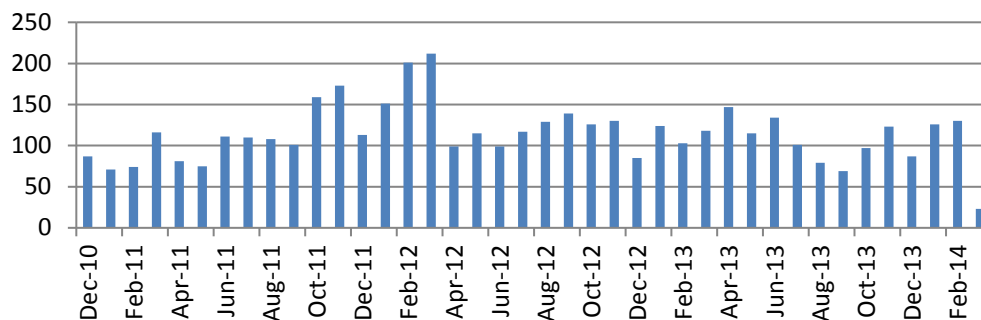
### WS3 Web Portal, Products and Services

The Work Programme for 2013-14 fitted under the overall Work Plan for 2011-14.

The following Key Targets were identified for WS3 for 2013-14:

- KT 3.1** Increase number of metadata records to 6000 by March 2014
- KT 3.2** Improve portal usage as evidenced by increasing web visits by March 2014
- KT 3.3** Consolidate system for publishing metadata and linked data view and download services to data.gov (and hence INSPIRE)

1. **KT 3.1** was achieved with the number of records in the portal reaching 6735 in March 2014 (for reference the number in September 2013 was 4831). This year has seen an increased flow of metadata from providers. Those sending through records have included DECC, the Channel Coastal Observatory, UKHO, the Cefas FishDAC and Marine Scotland FishDAC. DASSH has continued to be under contract to MEDIN to provide valuable metadata support and facilitate the flow of records into the portal.
2. **KT 3.2** has not been achieved this year evidenced by the static web usage over the last year (see plot below). The long overdue upgrade to the portal which mainly enhanced the user search interface is complete. The current phase (as of April 2014) is the transfer of the portal code from the developer to BODC. This move will have the benefit of enabling better logging of usage statistics for the portal which is only rudimentary at the moment as the web pages are hosted offsite. Advertising of the portal has been withheld until the portal upgrade had been completed and the code moved northwards to BODC so a new URL can be advertised for the portal (a redirect will be placed on the old URL for those who have bookmarked it in their browser). It is anticipated that web statistics for portal usage will increase with advertising the portal across the marine community.

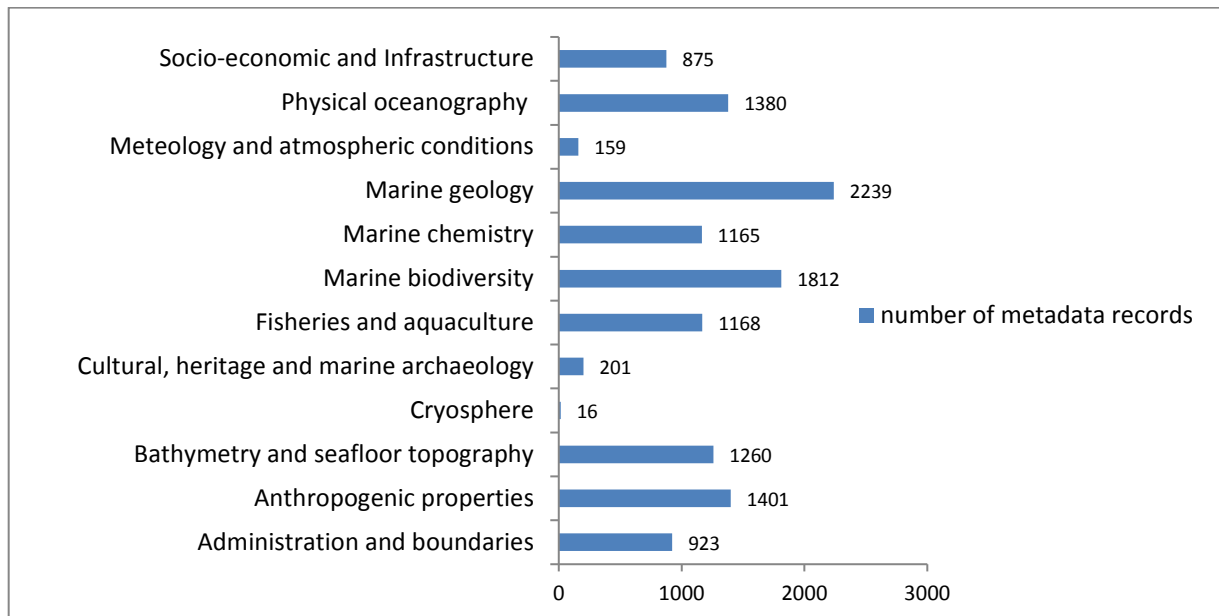


Monthly Visits to the MEDIN Portal at <http://portal.oceannet.org> (All visits)

3. **KT 3.3** has been partly achieved. The system for publication of selected portal records to data.gov.uk is now in place and there are 60 records from MEDIN published to data.gov.uk. There are a further 72 records to be added which have so far failed data.gov.uk validation and errors are being addressed currently. MEDIN providers have requested that their organisation is named as the publisher instead of MEDIN and this is also being progressed in discussion with data.gov.uk. A Geonetworks webpage has been set up to allow MEDIN to manage the flow of records to data.gov.uk instead of STFC (who manage the central repository and harvester for MEDIN portal records). The required work to enable Service metadata to be supported by the MEDIN portal has not been

completed this year. This will require developer time to change the portal source code to adapt it to render the metadata elements needed for a whole service metadata record to be displayed on the records page i.e. Element 7, Element10 but no 'Lineage'. This has been included in the work programme 2014-15.

4. New metadata records have been created to describe reference data layers that have been added to the new MEDIN online GIS tool [http://www.oceannet.org/download\\_gis/](http://www.oceannet.org/download_gis/)
5. The Maritime and Coastguard Agency requested that MEDIN hold records of the Civil Hydrography Programme bathymetry surveys in the Cruise Inventory along with associated cruise reports. 120 records have been created.
6. The task to provide MSFD Descriptor related metadata in UKDMOS has been postponed until the MSFD monitoring programmes are finalised (due July 2014). To enable easier access to MSFD information, the database will be updated with extra columns to enable tagging of programme records according to the MSFD descriptor, criteria and indicator that their data would be relevant to. This will require that UKMMAS Evidence Groups provide MEDIN with which programmes align to which MSFD descriptor, criteria and indicator.
7. The annual request to providers of UKDMOS records for updates was not completed this year as there is discussion (JNCC, Defra) about whether or not additional information is required to populate a possible new field(s) in UKDMOS for MSFD reporting purposes.
8. A set of enhancements to UKDMOS have been undertaken in this last year such as enabling WMS capability which would allow contributing organisations to show layers of relevant monitoring programmes and series on their websites directly from UKDMOS. Others include improved map symbology, enabling multiple selections from drop-down lists and the ability to produce KML files. The contracted developer is close to providing a beta version to allow testing of these new functions.
9. The portal now provides comprehensive coverage across the entire marine sector, as shown in the graph below.





**Portal Deliverables Table 2013-14**

<b>Deliverable</b>	<b>Status</b>	<b>Commentary</b>
<b>Q1</b> Finish portal upgrade  Complete transfer of portal from Geodata to BODC  Facilitate metadata flow (CCO)  Get automatic transfer of records to data.gov operational and ADS records published  Advertise the Discovery Portal (with WS6)  Reference data page / portal record checking of url and metadata content  Generate web stats for portal	Complete  Not done  Ongoing  Complete  To be done  Complete  Complete	
<b>Q2</b> Publish metadata to INSPIRE via data.gov.uk  Obtain user feedback and review portal functionality; trace and log search terms used on the portal  UKDMOS routine upgrade and improvement in function  Facilitate metadata flow  Generate web stats for portal	Complete  To be done  Ongoing  Complete  Complete	
<b>Q3</b> Publish metadata to INSPIRE via data.gov.uk  MSFD Descriptor related metadata in UKDMOS into portal  UKDMOS routine upgrade and improvement in function  Facilitate metadata flow  Generate web stats for portal  Respond to review and create overview 2014-2017 plan for WS3	Complete  Postponed  Ongoing  Complete  Complete  Complete	Postponed until the MSFD monitoring programmes are finalised (due July 2014)
<b>Q4</b> Facilitate metadata flow  UKDMOS routine upgrade and improvement in function  Generate web stats for portal  Portal and Web Services Work Plan for 2014-2015  Portal and Web Services Report for 2013-14	Ongoing  To be done /Currently being worked on  Complete  Complete  Complete	Routine upgrade not done as waiting on decision to include new fields for MSFD reporting

## **WS4 International Awareness, Coordination and Data Delivery to Global Databases**

WS4 ensures that UK developments are linked in and consistent with international initiatives, and that obligations to provide data to global data bases are met.

### **WS4 Deliverables Table 2013-14**

<b>Q1</b>		
<b>Deliverable</b>	<b>Status</b>	<b>Commentary</b>
Feedback from relevant European/ International Expert/Working Groups (KT4.1)	<i>Completed</i>	ICES WG Data and Information (21-23 May). Input provided to meeting on data publication and updates to ICES Data Guidelines (their future and their relationship to other similar guidelines). Input provided to UK IOC Committee about IOC/IODE programme in preparation for IOC Assembly.
Delivery of temperature and salinity data to the Global Telecommunication System (KT4.2)	<i>Completed</i>	
Delivery of water bottle and CTD data to global data centres (KT4.3)	<i>Not done</i>	Carried forward to 2014-15
<b>Q2</b>		
Feedback from relevant European/ International Expert/Working Groups (KT4.1)	<i>Completed</i>	Attended joint MODEG/WG DIKE Technical Group (4-5 July) including review of new EMODnet projects.
Update the international initiatives table and compile a document on getting ready for reporting data and information for the MSFD (KT4.4)	<i>Not done</i>	Carried forward to 2014-15
Delivery of temperature and salinity data to the Global Telecommunication System (KT4.2)	<i>Completed</i>	
<b>Q3</b>		
Feedback from relevant European/ International Expert/Working Groups (KT4.1)	<i>Completed</i>	Presentation on data guidelines, including MEDIN guidelines given to IMDIS Conference and provided to Neil Holdsworth for presentation at ICES Annual Science Conference
Delivery of temperature and salinity data to the Global Telecommunication System (KT4.2)	<i>Completed</i>	
Delivery of water bottle and CTD data to global data centres (KT4.3)		Carried forward to 2014-15
Respond to review and create overview 2014-2017 plan for WS4	<i>Completed</i>	

<b>Q4</b>		
Feedback from relevant European/ International Expert/Working Groups (KT4.1)	<i>Not attended</i>	MODEG meeting planned for 19-20 February 2014
Further updates to the international initiatives table (KT4.4)	<i>Not done</i>	Carried forward to 2014-15
Delivery of temperature and salinity data to the Global Telecommunication System (KT4.2)	<i>Completed</i>	
WS4 Work Plan for 2014-2015	<i>Completed</i>	
WS4 Report for 2013-2014	<i>Completed</i>	

## WS5 Resources and Applications Development

The following table summarises WS5 Deliverables for 2013-14 and their status at Mar 2014. The commentary column explains where and why deliverables have not been fully achieved.

Deliverable	Status	Commentary
<b>Q1</b>		
1.1 Provide input to design and content of reference data web pages	Completed	Delayed from 2012-13 to web development availability in BODC. Number of non MPA datasets is disappointing – see below.
1.2 Launch of reference data pages on the MEDIN portal encompassing priority and MPA datasets	Part Completed	
1.3 Marine Gazetteer available for download and input to searches on the MEDIN Portal	Completed	
<b>Q2</b>		
2.1 Hold WS5 Working Group meeting to review reference data web pages and encourage data holders to comply with MEDIN aims	Completed	Discussed at partner meeting. Outcome that MEDIN should be prepared to take on or facilitate role where data owners are constrained by resources or remit.
2.2 Update the MEDIN Reference Data Action Plan to include INSPIRE requirements	Postponed	
2.3 Specify and commence projects for the protection and strengthening of two priority datasets	TCE addressing cables	
<b>Q3</b>		
3.1 Publication of a revised action plan, identifying clearly where priority data needs to improve and how.	Postponed to 2014/15	There was little to update so this activity has been postponed Some non MPA datasets added and others identified
3.2 Add further (named) reference layers visible through website.	Completed	
3.3 Respond to review and create overview 2014-2017 plan for WS5	Completed	
<b>Q4</b>		
4.1 Complete data protection and strengthening projects, include in portal and handover to custodian	Part Completed	INSPIRE related work has allowed MEDIN to meet its aims in some areas e.g. DECC. Further work e.g. DEFRA is in progress.
4.2 Mapping and Applications Work Plan for 2014-2015	Completed	
4.2 Mapping and Applications Report for 2013-2014	Completed	

1. New pages for the MEDIN web site were created and the reference data catalogue populated with 109 datasets. The launch of the web pages was delayed due to web development resource constraints and further improvements are also likely to be delayed. This should improve when the

website is fully under BODC's control (in 2014) but to avoid future delays MEDIN must now work with BODC to provide adequate support or be prepared to employ a third party.

2. MEDIN continued to encourage data owners to undertake the following activities:
  - a. Enter metadata for the datasets identified as reference datasets by WS5
  - b. Make these datasets available for download via a link accessible from the MEDIN portal
  - c. Develop web services for these datasets so they can be consumed more widely in end user applications
  - d. Prepare and publish an improvement plan for these datasets.
3. Progress on these activities has been less than planned due to resource constraints and other factors outside of MEDIN's control. Where progress has been made this has been helped by data owners needing to meet their obligations under INSPIRE.
4. As a consequence, in order to achieve its long term aims MEDIN should be prepared to take on or facilitate the above activities on behalf of data owners, especially where key datasets do not have a single natural home, where these datasets are not being maintained and/or where they are in danger of becoming less valuable to the wider community.
5. A new version of the Marine Gazetteer was released and was included in the portal search function. The aim is to continue to work with Ordnance Survey to create a combined land-sea gazetteer. Publication of the gazetteer as 'linked data' is being considered for 2014/15.
6. Following the MEDIN Review, comments by MSCC and outcomes from the Partner meeting, a process has now started to identify the 'data products and services' of importance to MEDIN partners. This process will continue and pilots developed during the course of 2014/15.

## WS6 Communications: Outreach, forums, publicity

1. MEDIN's main website is available at [www.oceannet.org](http://www.oceannet.org). Website statistics from 01/06/12 - 01/06/13 and 01/06/13 - 01/06/14 are shown below:

Period	Visits	Visitors	Pageviews
2012-2013	12,538	7,149	43,319
2013-2014	13,656	7,614	61,715
<b>% change</b>	<b>+8%</b>	<b>+6%</b>	<b>+30%</b>

Webstats from comparable time periods in 2012-13 and 2013-14.

2. There has been an increase in all above metrics as compared to last year. Of all visitors in 2013-2014, 53% were new visitors.
3. The top ten pages (as measured by the number of times a page was viewed) are listed below:

Rank	Page	Pageviews	% of total views
1	Home page	23311	38%
2	Marine Data Standards	10530	17%
3	Useful links	6360	10%
4	Submitting data	3684	6%
5	Portal	3645	6%
6	Download GIS layers	3423	6%
7	Library	3035	5%
8	Finding data	2995	5%
9	Submitting metadata	1089	2%
10	Search	909	1%
	<b>TOTAL</b>	<b>61715</b>	<b>96%</b>

4. MEDIN continually seeks to update and improve the oceannet.org website in order to increase its effectiveness.
5. MEDIN's online newsletter is known as **Marine Data News**. The first issue of 2014 will be published at the end of June and will advertise portal upgrades, marine reference layers and Partner's meeting.
6. The previous issue was published in Sept 2013 and can be view via the MEDIN website. Articles included:
  - a. An on-line mapping tool for marine planning in Scotland
  - b. Outcome of independent review of MEDIN
  - c. MEDIN reference layers catalogue
7. Total subscribers to Marine Data News currently stands at 620.

8. MEDIN sponsored two conferences this year, A Prospectus for UK Marine Sustained Observations (September 2013) and Coastal Futures (February 2014)

**Communications Deliverables Table 2013-14**

<b>Deliverable</b>	<b>Status</b>	<b>Commentary</b>
<b>Q1</b> Edition of Marine Data News  Publish articles in on-line newsletters and magazines on MEDIN portal and standards  Edit and maintain website	Published end June  Ongoing  Ongoing	
<b>Q2</b> Move Marine Data News to in house production and dissemination  Publicise upgraded portal (with WS3)  Edition of Marine Data News	Complete  To be done  Published end June	Have moved production over, future issues will be published through this route
<b>Q3</b> Organise and hold MEDIN partners meeting  Edition of Marine Data News  Produce more publicity material as required  Publish articles in on-line newsletters and magazines on MEDIN portal and standards  Respond to review and create overview 2014-2017 plan for WS6	Held  Done  Done  To be done  Done	Issue 25 published in November  Updated leaflets printed and distributed Waiting for portal update to be complete  Work Programme for WS6 generated
<b>Q4</b> Edition of Marine Data News Edit and maintain website Comms Work Plan for 2013-2014 Comms Report for 2013-14	Due May 2014 Ongoing Completed Completed	

## ***WS7 Management, Planning and Coordination***

1. Work Stream 7 covers the management, planning and coordination activities as provided by the core team based at BODC, with the support of the MEDIN Executive Team. This includes the organisation of MEDIN Executive Team meetings, quarterly and annual reporting, and the production of an annual Work Plan.
2. A major activity in 2013 was to contribute and respond to the independent review of MEDIN that was carried in this year and which reported in August 2013<sup>2</sup>. This report concluded that the MEDIN initiative has been, and continues to be, a sound investment in UK marine data infrastructure and urged the sponsors to provide sufficient funding in order that MEDIN will be able to deliver the benefits of its unified UK approach to marine data access and management. In particular, the Review Panel noted with satisfaction that:
  - MEDIN is making data more widely available in the UK marine domain through enabling their discovery;
  - MEDIN is highlighting and facilitating data management issues and standards and the related resources within individual organisations and that this has led to improvement in practices;
  - The distributed structure with DACs, all linked to a central portal with a solid management organisation maintaining it, is a good approach to dealing with diverse organisations and data management cultures.
  - MEDIN creates a (positive) pressure to conform to data standards.
3. Based primarily on the recommendations of this review a 5 year Business Plan has been generated and proposed to the MEDIN Sponsors.
4. MEDIN has again worked closely with the UKMMAS (UK Marine Monitoring and Assessment Strategy) community:
  - A key requirement on MEDIN in support of UKMMAS is to develop plans for data management and setting up data transfer arrangements in support of the UK implementation of the European Marine Strategy Framework Directive (MSFD). A short document summarising MEDIN's planned support to MSFD implementation was prepared for the Marine Assessment Review Group (MARG) and copied to the Evidence Groups.
  - To reduce the meeting load on the core team, Dan Lear (DASSH) is now being supported to represent MEDIN at the Healthy and Biodiverse Seas Evidence Group, as is Mike Osborne (Oceanwise) to represent MEDIN at the Productive Seas Evidence Group
  - David Cotton continues to attend meetings of MARG and is on the Executive Committee for the UK Integrated Marine Observation Network. He has also attended meetings of UKMMAS Human activities and Pressures Steering Group, and the Aerial Monitoring Group
5. Engagement with MSCC has continued. Progress reports are provided to the 6 monthly meetings, and official MEDIN representation is now provided through Rob Hensley (UKHO). A briefing note is provided in advance of each meeting and a report provided back to the MEDIN Executive Team. David Cotton attends the

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<sup>2</sup> Report from the Review Panel on the Review of the Marine Environmental Data and Information Network, Taco de Bruin, Colin Grant, Neil Holdsworth, August 2013, available at [http://www.oceannet.org/library/key\\_documents/key\\_docs.html](http://www.oceannet.org/library/key_documents/key_docs.html)



MSCC Industry Liaison Group, which is looking at a high level how access to industry data can be improved, and Gaynor Evans attends the underwater sound forum.

6. MEDIN continues to engage closely with the data.gov.uk initiative to coordinate input from the marine community, and to ensure that the MEDIN and data.gov.uk resources developed for publishing data and metadata are consistent and linked.
7. A meeting was held with Natural Resources Wales to establish links with this new body, and establish agreements regarding future working arrangements

**Management Deliverables Table 2013-14**

<b>Deliverable</b>	<b>Status</b>	<b>Commentary</b>
<b>Q1</b> Exec Team Meeting Support and contribute to MEDIN Review MARG meeting – develop approach for MSFD data management and access, and discuss updates to Work Stream Work Programmes as appropriate Sponsors Board	Completed Completed Attended Completed	held 29/04/2013  held on 19 <sup>th</sup> June
<b>Q2</b> MILG, IMON and MARG meetings Receive MEDIN Review findings Arrange meetings with the EA and Natural Resources Wales. Arrange meetings with 3 private sector organisations Exec Team Meeting	Completed Completed  NRW mtg held Not done Held	MILG x 2,  EA meeting postponed pending discussions about sponsorship 04/09/13
<b>Q3</b> Business Plan and Work Programme for 2014-17 MILG, IMON and MARG meetings Exec Team Meeting Sponsors Board	Completed Attended Held Held	8 <sup>th</sup> Jan 2014 13 <sup>th</sup> Nov 2013
<b>Q4</b> MILG, IMON and MARG meetings Paper to MSCC recommending adoption of 2014-17 Work Plan as Marine Data and Information Strategy Exec Team Meeting Work Plan for 2014-2015 Annual Report for 2013-2014	Attended Completed  Held (late) Completed Completed	To MSCC plenary March  14 <sup>th</sup> May 2014