

**Towards Solent Marine Planning (SoMaP)
Information Requirements Report**

December 2009

Background

SoMaP has a defined work package to understand the information requirements for a Solent Marine Planning system. The following sections provide a summary of how each element of this work package has been managed.

Scope GIS mapping with local and national data experts. Set-up a local web-based GIS visualisation to spatially represent data collected

A Data Group was formed comprising organisations from Crown Estate, Environment Agency, Natural England, Geodata, ABP Mer, Channel Coastal Observatory, Seazone and Balanced Seas. The Group met on 7th May and broadly agreed what data would be required and how the data might be visually represented. The Group contributed information on various GIS initiatives and Data Projects; a summary of these can be found in Appendix A. On the 5th May the Steering Group agreed that an end-user interface system would be built subject to project funds. This system would not be a GIS, rather a map based method of searching a policy database showing a hierarchy of policies and information about policies. Geodata will be producing proposals to build this system using a methodology previously used for the North Wessex AONB Project. The Solent Forum is developing the database matrix itself and this will be complete in January 2010. The end-user system will be built by October 2010.

Agree Sectors to be covered within the policy database

Sectors to be covered were presented within the projects' Communication Strategy and agreed by the Steering Group on 8th July 2009. They were initially based on sectors represented in the Solent Forum's Strategic Guidance and databases. They have since been refined as a result of on-going work from Defra, Scottish Marine Planning examples and work from Dorset c-Scope.

The sectors can be seen in the following section – The Matrix.

Agree the data and information requirements to describe the physical and biological environment and sectoral uses, and their spatial distribution. To include policies, plans, strategies and activities. Agree matrix framework which can be searched by a/sector b/location c/ Governance level d/ Terrestrial, coastal or marine

A matrix of the data and information requirements for each sector has been developed with the Data and Steering Group. This can be seen in the following section – The Matrix.

Assess degree to which policies are operationalised into specific targets/breakdowns which are SMART, so planners can work with them

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Agree what data and information will be collected within the project with tiers of importance 1/ Collect all policy data 2/begin to collect all other data such as a/plans b/activities for agreed case studies.

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Understanding the Information Requirements

In order to understand the information requirement for the project a specific data group has been established. The group met May 2009 and as well as defining its role, agreed the approach to take in collecting and presenting information. The group agreed that the project needed to take a Top-down approach rather than Bottom-up approach. In other words there is a need to frame the type of information to be collected first, rather than employ a scattergun approach of collecting all possible data. Despite this, the project still can list or collate any data on activity that it is provided/comes across. The Eastern Channel MCZ Project (Balanced Seas) will be much more concerned with actually collection national, regional and local datasets and therefore the SoMaP Project can much more usefully target the information it requires to aide planning. The Solent Forum web-site is an obvious first source of information and it already has DISC a metadatabase of Solent coastal and marine studies. Solentpedia is also a good source of plans and strategies in the Solent, listed under the managing our coast section.

The information to be targeted is Statutory and non-statutory plans and policies for a whole range of sectors operating in the Solent. Each plan or policy will be assigned a geographic boundary/polygon. The outputs will be a Solent Map showing each of these sectors and policy constraints to development/usage – It will include textual information showing policy. Maps may show boundary information, textual policy, jurisdictions, orders and bye-laws, codes of conduct for less organised sectors. Policy information may include metadata on it such as: How policy agreed, how frequently reviewed. In the case of development policies, information may be sought on what plans are made by sectors and to what degree plans are assessed.

Links to available activity data can be made – Solent Forum will work closely with the EC MCZ Project to collate any links. For the three case study areas, more detailed information can be collated if necessary particularly to demonstrate land sea interactions.

The approach of mapping policy information would be similar to that taken by the North Wessex AONB Project, managed by Geodata.

The SoMaP Steering Group endorsed the above approach and agreed the project should gather metadata and find out how hard it was to collect, gaps in data, problems getting data for the *case studies*. The Steering Group also agreed three case studies including the River Hamble harbour Authority, Shipping Movements and Coastal Squeeze, so that the project can focus on these in more detail.

Geographic Boundaries

SoMaP includes the Solent boundary between Hurst and Selsey Bill on the main land and between Bembridge and the Needles on the Isle of Wight. It was agreed that boundaries would be flexible however and therefore the area as far as 12 nautical miles from the coast has also been considered, as well as neighbouring West Sussex and Dorset.

The Matrix

The matrix provides the early development of a database framework which would provide and obtain information from a complete range of **sectors** operating in the Solent Marine Area. The matrix comprises an Excel Database and this section provides a summary of how it is structured; it will be designed by January 2010 and semi-populated (fully in case study areas) by October 2010. An end-user interface system will be built by October 2010 in order to interrogate it.

The sectors have been chosen using a range of influences and studies including:

- Solent Forum Strategic Guidance 1997
- Solentpedia and DISC
- Defra - initial thinking on the Marine Policy Statement.
- Defra – Marine and Coastal Access Policy Paper
- Defra- Model Marine Plan (Policy Map)
- Dorset c-Scope policy database
- Scottish Marine Plan policy frameworks including Mull, Firth of Clyde and Shetland

The Crown Estate MaRS system and the Cefas Tools project have been assessed for relevance to help shape the information requirements for this project and it is considered that they are unsuitable. MaRS is focused on multi-criteria assessment that allows the user to prioritise dataset analysis in order to identify areas of development opportunity or constraint. This is not relevant as the primary aim of SoMaP is to provide access to policy information through a mapping interface. The Cefas Tools Project also uses a multi-criteria analysis but focuses on potential impacts and sensitivities of potential activities.

The Defra Model Marine Plan (September 2009) recommends a Policy Map which, using GIS, would illustrate the spatial and temporal extent of policies on an International, European, National, regional and local levels. The Marine Plan will also show activities, designations, proposals and uses on surface, water column and seabed. The Matrix begins to show the Policy Map for the Solent.

Matrix Sectors

The Sectors are shown on Table 1 below.

Table 1 SoMaP Matrix Sectors

Protection and Conservation	State of the Solent Indicators
Coastal Risk Management	<ul style="list-style-type: none"> - Length of defended coastline - Rate of Sea Level rise and no. of stormy days - Natural, human & economic assets at risk of coastal flooding
Water Quality/Resources	<ul style="list-style-type: none"> - Compliance EC Shellfish Hygiene Directive - Compliance EC Bathing Water Directive - Beach litter - Dangerous Substances in Water - High ests of Nitrts & Orthophosphate point sources in Solent - Volume of oil spills and discharges - Mean surface sea temparature
Emergency Planning and Safety	<ul style="list-style-type: none"> - Health and safety incidents in the Solent
Nature Conservation	<ul style="list-style-type: none"> - Wildfowl and wader counts - Change in extent of coastal habitats - Condition of sites designated for nature conservation
Heritage and Archaeology	<ul style="list-style-type: none"> - Building and monuments at risk of decay - Number of sites recorded on the sites and monuments record - Area & no. of desig conserve. areas for heritage and archaeology
Access to Coast and Countryside	
Landscape/seascape	<ul style="list-style-type: none"> - Change to the seascape of the Solent - Number/percentage of landscape features lost, degraded or enhanced - Changes in landscape assessments carried out by local authorities - No, extent, quality and degree of landscape & seascape impr. schemes - Perceived quality of the coastal landscape
Sustainable Development	
Ports and Shipping	<ul style="list-style-type: none"> - Number of dredge licences issued in the Solent area & volume dredged - Total Volume of freight handled by Soton Ports - Economic importance of the ports industry in the Solent - Employment reliant on the ports industry - Number of shipping movements
Land use planning	<ul style="list-style-type: none"> - Change in the area and type of developed land in the coastal zone - Use of brownfield as opposed to greenfield sites for coastal develop.
Ferrys	<ul style="list-style-type: none"> - Number of ferry passengers to the Isle of Wight
Marinas/moorings/access to land	<ul style="list-style-type: none"> - Number of berths and moorings for recreational boats in the Solent
Land based recreation	<ul style="list-style-type: none"> - Proportion of attractions with implemented environ'l quality managnt plans - Visitor numbers to key attractions - Number of overnight stays in tourist accommodation - Intensity of land based recreational activity
Water based recreation	<ul style="list-style-type: none"> - Level of participation in coastal based recreation facilities in the Solent - Intensity of water based recreational activity
Transportation to shore	<ul style="list-style-type: none"> - Volume of traffic on major coastal roads - Proportion of journeys taken by public transport
Wildfowling	

Agriculture	
Fish and Fishing/Aquaculture	<ul style="list-style-type: none"> - Number of salmon returning to the rivers Test and Itchen - State of the main fish stock in the Solent (Oyster Stock) - Registered fishing vessels in the Solent
Marine industries	<ul style="list-style-type: none"> - Economic importance of the marine industry (excl. ports) in the Solent - Employment reliant on marine industries - Diversity of the marine industry base in the Solent - Tonnage of aggregates landed in the Solent - Levels of aggregates fom secondary and recycled sources
Renewable energy	
Carbon capture and storage	
Service infrastructure	
Oil and gas exploration	
Disposal	
Military/Naval	
Coastal Land Management	

The project will seek to identify policies for each of these sectors and arrange them Internationally, Nationally, Regionally and Locally, establishing the hierarchy of policy under Governing Legislation and National Policy Statements. As it is unclear whether the project can complete this task, the case study areas will be tackled first. A full range of policies will be sought from the case study areas (River Hamble, Shipping Movements, Coastal Squeeze) and a list of Governing legislation made.

The Solent has a sustainability Indicator set which has an established robust set of environmental, social and economic indicators, which can be widely understood by the public, as a basis for future monitoring of the health of the Solent. These are monitored and reported on through the regular publication of the State of the Solent report by the Solent Forum.

Policy Questions

For each policy a range of information will be sought as shown on Table 2.

Table 2 SoMaP Policy Questions

Category and Question	Descriptor
Sector (Topic)	Key metadata (1)
Title	
Main title	Key metadata
Alternative title	Key metadata
Abstract	Key metadata
Key Reference	
Author	Key metadata
Date	Key metadata
Key words	Key metadata
Spatial extent/Bounding coordinates (2)	Key metadata
Who created Record	Key metadata
Policy in date	Yes/No
Date review due	
What stage review	Not started/underway/at consultation
Web-link	collect for SoMaP - Web-link or text to describe (list of
Policy Range	
Description	Short description
Socio	Yes/no
Economic	Yes/no
Environmental	Yes/no
Authority of Policy	
Legal	Yes/no
Government Policy	Yes/no
Statement of Intent	Yes/no
No statement	Yes/no
Public Body	Yes/no
Governing Policy/legislation	Link or name obvious Governing policy/Legislation
Assessment of Policy	
Strategic Environmental Assessment	Yes/no
Environmental Assessment	Yes/no
Regulatory Impact Assessment	Yes/no
Habitats Regulation Assessment	Yes/no
Appropriate Assessment	Yes/no
Millenium Ecosystem Assessment	Yes/no
Sustainability Assessment	Yes/no
Ratified	Yes/no
Consulted	Yes/no
Informal	Yes/no
Policy Gaps	Description of how difficult to get policy and any gaps

(1) The Key Metadata satisfies the UK Gemini Standard

(2) Eastings Northings and Lat Long

User Interface

The matrix needs to be developed into a database that can be easily accessed and searched, using a map interface. Consideration needs to be given to:

- Type of user
- Accessibility – CD, web-based
- Ability to search geographically
- Ability to search by sector, policy, organisation
- Need for base mapping

The SoMaP Steering Group agreed that the system should be structured in the way a planner might make a decision, using a decision tree and hierarchy. The system may be used by planners or developers. Planners can be categorised into a/ early stage policy planners b/ plan makers c/ development control.

There are many layers of designations, physical environment and ecology classifications, infrastructure, and activity extents that will be important for marine planning. Planners will eventually require such data when searching for and understanding marine and coastal policies; systems to achieve this will be expensive and will require careful consideration so as to utilise existing information and expertise. The SoMaP Steering Group agreed that the project should not be resourced to begin building such a large GIS system and should concentrate almost exclusively on policy and policy metadata.

The user interface will be accessed via a GIS which will provide the following basic basemapping as shown in Table 3.

Table 3
GIS Basemapping for SoMaP

Bathymetry
Land contours
Natura 2000 network
Administrative boundaries on land
Administrative boundaries in marine environment
Solent boundary
Base mapping showing main towns and infrastructure

Appendix A - GIS/Data Projects and Initiatives

HCC GIS	Access to HCC social, environmental and economic coastal data	Mike Proctor
Defra and its MMO teams	<p>Currently scoping the GIS requirements for Marine Spatial Planning and the MMO; they are considering how the Government's GIS SPIRE can be used.</p> <p>A spreadsheet has been provided to show the marine planning datasets that the Marine Planning Implementation team are working on.</p>	Chairman Givindsame
Defra project to support MMO – working with MFA and CEFAS	<p>CEFAS are currently aiding Defra by helping develop tools for the new MMO, as well as developing a sustainability appraisal system, This is particularly aimed at a regional scale, rather than sub-regional scale.</p> <p>Geodata – tools mean GIS. How make a decision for people that do not use GIS. This project is limited as the vision is limited. There will be a workshop. Solent is an attractive component for this project. So is Irish Sea. Important ot get right data resolution.</p>	Sharon Wort is the Defra contact
Seazone	An organisation funded by UKHO and OS. Charges for data. Can provide bathymetry and hydrographic vector GIS and, and link land and sea. Only organisation that can offer absolute positioning in water? Different standards and resolutions around country. Charges per licence	Mike Osborne
ABP Mer	Have just been contracted to assist in developing the maps for the new suite of Marine Protected Areas that are to be set-up.	Stephen Hull
Channel Coastal Observatory	Portal for all coastal monitoring data in Solent.	Andy Bradbury Travis Mason
GeoData	<p>Working with Defra and MMO implementation team on range of projects above.</p> <p>North Wessex AONB project – spatially mapping policies</p>	Chris Hill Jason Sadler
BMT Cordah	Developing modelling systems to help analyse future scenarios. Climate change and coastal risk data from the Environment Agency and other organisations will then also be built into scenarios, so that predictions can be made over future epochs.	Zohier Sabeur

Dorset C-SCoPE project	Developing a web based Explorer GIS with DCC to enable relevant policies (and activities) to be displayed by clicking on a map to bring-up detail in a particular location. Using Seazone	Ken Buchan
Hampshire Coastal Access Project	CD available. This spatially maps access – huge project.	Jo Hale
Geodata/EMU/NOC	Biotope Mapping –	
IMARK ABP/BMT Cordah/Geodata	Water quality data	
EMU/Geodata	Regional Environmental Assessment - Marine aggregates	
MARS/COWRIE – Crown Estate	Allocating marine resources with a decision-support system. Where source routemap to data?	
E Channel MCZ Project GIS	May be similar to finding Sanctuary EXEGIS	
MEDIN	Marine Data Archive Centre – Defra data portal to UKHO and others	
HWT	Shoresearch. Polygons to show where certain habitats such as eel grass	Jolyon Chesworth
EA	Specialised Bathymetry data	
Solent Forum/Geodata	DISC data base of all Solent report data, with spatial coordinates	
Google Layers		