Marine Social and Economic Data
- A UK Perspective

Leoni Adams, Dan Lear, Becky Seeley, Charly Griffiths

DASSH, Marine Biological Association,
Citadel Hill, Plymouth, PL1 2PB, UK
+44(0)1752 633291

leoams@mba.ac.uk

"Advancing marine science through research, communication and education since 1884"

www.mba.ac.uk

Introduction

- The importance of social and economic data

- The current picture in the UK

- Improving social and economic data management

Why is marine social and economic data important?

Why do we need good social and economic data?

•As a result of the Marine Strategy Framework Directive and UK legislation (e.g. the Marine and Coastal Act 2009);
- ▪Organisations have been tasked with marine spatial planning.
- ▪A Marine Policy Statement has been produced.

•Marine planning aims to sustainably manage the marine and coastal environment, through balancing activities, resources and assets.

•This process must "benefit society as a whole".

•Marine planning requires a good evidence base to help avoid negative impacts on social and economic ventures.

MEDIN
marine environmental
data & information network

THE MARINE BIOLOGICAL ASSOCIATION
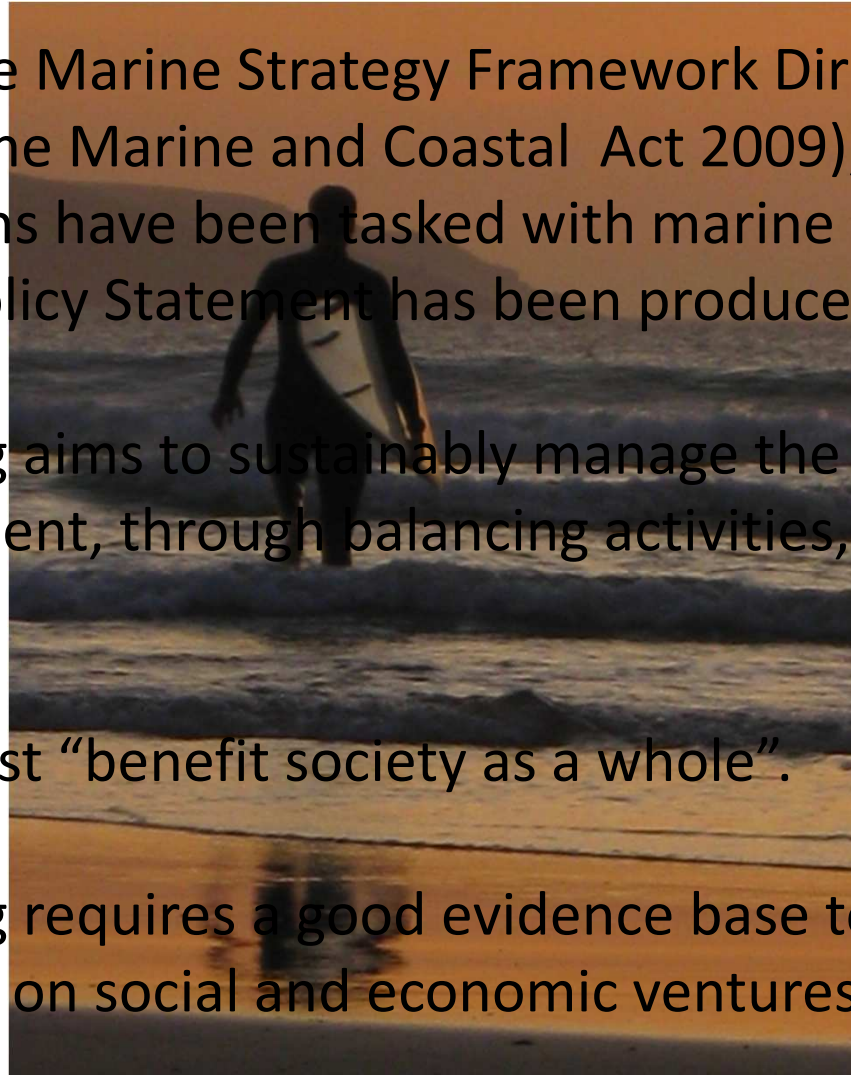
Marine social and economic data in the UK – the current picture

Marine social and economic data management in the UK - the current situation

- At present large amount of social and economic data exists in the UK.

  BUT...

- This data is *not* heavily utilised and when it is, usage is patchy.

- Charting Progress 2 (2010) was the first review in the UK to include a dedicated chapter on marine social and economic data.

MEDIN
marine environmental
data & information network

THE MARINE BIOLOGICAL ASSOCIATION

Marine social and economic data management in the UK - the current situation

So **why** isn't this data being utilised?

•Initiatives such as Valuing Nature Network and the UK NEA have highlighted the need for data and information management within the social and economic sector.
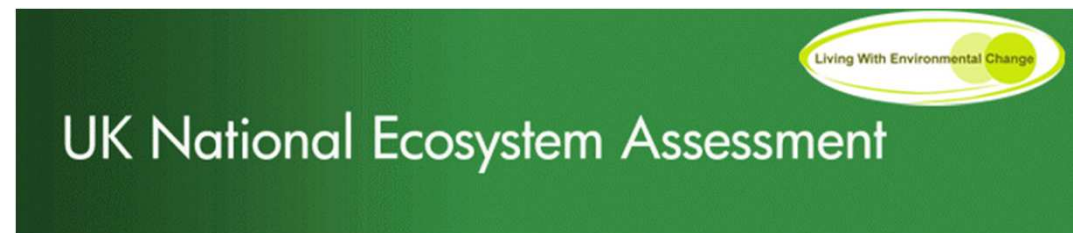
There is no *marine-specific* social and economic data archiving centre currently built into the UK marine data management structure.

One of the key issues faced marine planning organisations is to address this lack of cohesion and coordination in the management and accessibility of marine social and economic datasets.

MEDIN
marine environmental
data & information network

THE MARINE BIOLOGICAL ASSOCIATION

Improving marine social and economic data management

Who is responsible for improving the situation?

- Marine data management in the UK is coordinated by

"Measure once use many times"

www.oceannet.org

•MEDIN have been working alongside the marine planning organisations to improve the situation.

How? ….

Projects

- Numerous projects have been completed. A full list of evidence projects to date can be found at: http://marinemanagement.org.uk/evidence/documents/evidence register.pdf

- Social and economic data and tools review
- South coast recreational activity mapping
- VALMER (valuing marine ecosystem services in Europe) project

Marine Management Organisation
social and economic data and tools review

Social and economic data and tools review

- Initial assessment
- Scoping study
- Data catalogue

- A baseline study

Tools review

- Several tools exist which incorporate social and economic data into decision making.

- This review focused on these tools, and identified gaps in the current tools suite and made recommendations for future research.

InVEST (Integrated Valuation of Ecosystem Services and Trade-offs), developed by the Natural Capital Project, is a scenario assessment tool. It uses an 'ecosystem production function' approach to translate biophysical data into an estimation of the services they provide, it then values these services. It is a custom toolbox that has been designed for use with ArcGIS software, meaning the user needs proficiency in GIS. A marine-specific InVest toolbox has been developed to address the need for marine spatial planning; this tool enables the mapping and trade-off analysis of wave energy potential, food from fisheries, food from aquaculture, coastal protection and recreation to aid academics and decision makers in the planning process. It is designed to inform and assess the baseline conditions and test the ecosystem under alternative scenarios to develop a spatial management plan, but may also be used during scoping to explore how ecosystems interact and how marine users will affect them (Natural Capital Project, 2010). InVEST is limited in its modelling of human interactions and does not generally model feedbacks or values other than those that result from 'direct use'.

Co$ting Nature is a web-based policy support system for the development of conservation strategies; it was developed by King's College London and aims to help planners prioritise the management of valuable ecosystems, in terms of the goods and services that they provide. It operates within the web browser and draws data from an integrated database. Using more than 80 input maps, it calculates the spatial distribution of ecosystem services in the study area and allows scenarios of policy decisions to be run to assess the impact to the delivery of these services (Mulligan, 2011). Outputs are in the form of maps and text summaries, but data can be downloaded for further analysis in ArcGIS. This tool may also be used to inform the scoping and assessment of new policies/plans but is not yet running scenarios for climate and land-use change and considers a limited range of terrestrial ecosystem services. Co$ting Nature provides a user-friendly interface and various forms of support; including a comprehensive user manual, online live help and online training sessions. However, there is currently no development of a specialised marine component for this tool.

Co$ting Nature limitations	Co$ting Nature benefits
• Not yet running scenarios for climate and land use change	• Rapid and easy to use
• Currently no marine ecosystem services	• Communicates effectively, detailed, spatial and global
• Reliant on the upkeep of the SIMTERRA database	

Applications	
Mostly unpublished applications for scientists and policy analysts to use.	
Tool functions:	Development of options.
Data needs:	No user input needed – more than 80 input mapped layers stored on associated database.
Data outputs:	Maps, reports.
Links:	http://www.policysupport.org/costingnature

ST benefits

- an be used to compare the outcomes of ultiple scenarios at one time
- an be run at multiple geographic scales e. local, regional, global) dependent on ata
- utputs can be in biophysical or onomic terms
- as a modular, tiered approach to deal th data availability and the state of stem knowledge

aii), marine and coastal systems (e.g. n (e.g. Monterey Bay), payment for restoration investments (e.g. Gulf of . Colombia), and land-sea connections 2011).

Impact Assessment.

led including spatial data on d valuation data, level of resolution of

data, reports.

project.org/InVEST.html

MEDIN
marine environmental data & information network

THE MARINE BIOLOGICAL ASSOCIATION

Data Review - Data and metadata catalogue

•Collation of UK marine datasets containing social or economic information.

•Entered into an Excel spread sheet formatted using INSPIRE compliant metadata elements.

•http://www.marinemanagement.org.uk/evidence/documents/Catalogue_of_marine_socio-economic_data_2012.xls

|	A	B	C	D	E	F	G	H
1	Project ID	Unique resource identifier	Resource Title	Category (based on CP2 Chapter)	Marine Policy Statement chapter	INSPIRE theme	Data Type	Abstract
55	SocEco0000380		LFS/IER (2009) Share of Working Age Workers 19-59/64) (Workplace) in Broad Sectors by NQF Qualification	Social		Population distribution - demography	Social	
56	SocEco0000381		Maritime and Coastguard Agency UK Fishing Fleet Data	Fisheries	3.8 Fisheries	Not applicable	Economic	
57	SocEco0000382		Fisheries Administrations in the UK, UK Fishing Fleet Data	Fisheries	3.8 Fisheries	Land Use	Economic	
58	SocEco0000383		Marine Accident Investigation Branch, Marine Fishing Vessel Accidents Data	Fisheries	3.8 Fisheries	Human health and safety	Economic	
59	SocEco0000386		2003 TTC International and Tym and Partners, Southampton Cruise Tourism economic survey data	Leisure and Recreation	3.11 Tourism and recreation	Land Use	Economic	We interviewed Carnival (covering P&O and Cunard brands), Saga, and Fred Olsen for the numbers of workers directly employed by the company in Southampton who were resident in Southampton and Hampshire. Together, these brands carried 95% of the 548,000 cruise passengers (embarking and disembarking) who passed through the port in 2004. This figure was a reliable estimate when this study was in preparation. All comparator data had to be based on published annual figures and these are only ...
60	SocEco0000387		2003 TTC International and Tym and Partners, Southampton Employment in visitor and tourism industries cruise interview data	Leisure and Recreation	3.11 Tourism and recreation	Land Use	Economic	To estimate the number of jobs created by spend i visitor and tourism industries we undertook face-to face semi-structured interviews with 107 cruise passengers.4 Alongside obtaining general information on passengers' general impressions o their experience of facilities, signage, and so on, the interviews (attached as Appendix 1) looked at passengers' hotel stays locally, and their spend in Southampton.
	SocEco0000390		ONS Annual Abstract of Statistics	All	All		Economic	Contains statistics on the UK's economy, industry, society and demography presented in easy to rea ...

www.mba.ac.uk

Data review

The data catalogue consists of 391 datasets

- 243 of which had location information.

covering a wide range of social and economic datasets.

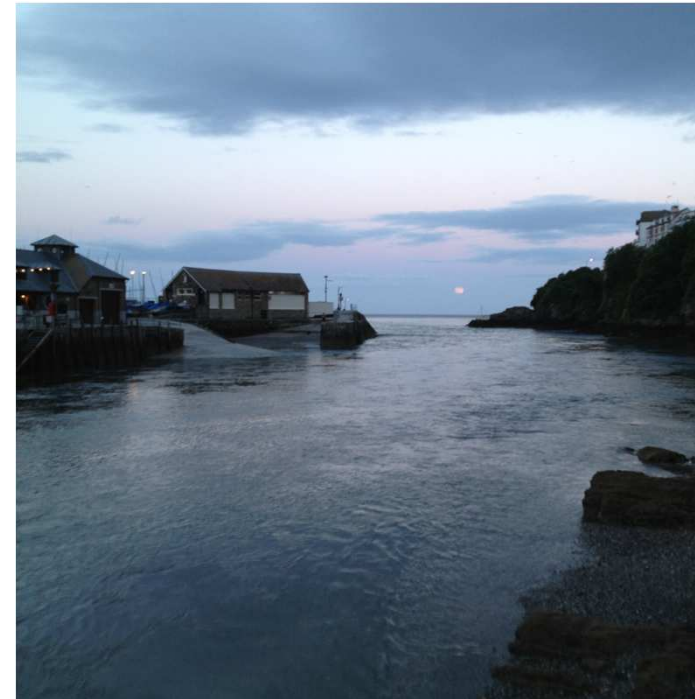Around a third of these datasets are available online.
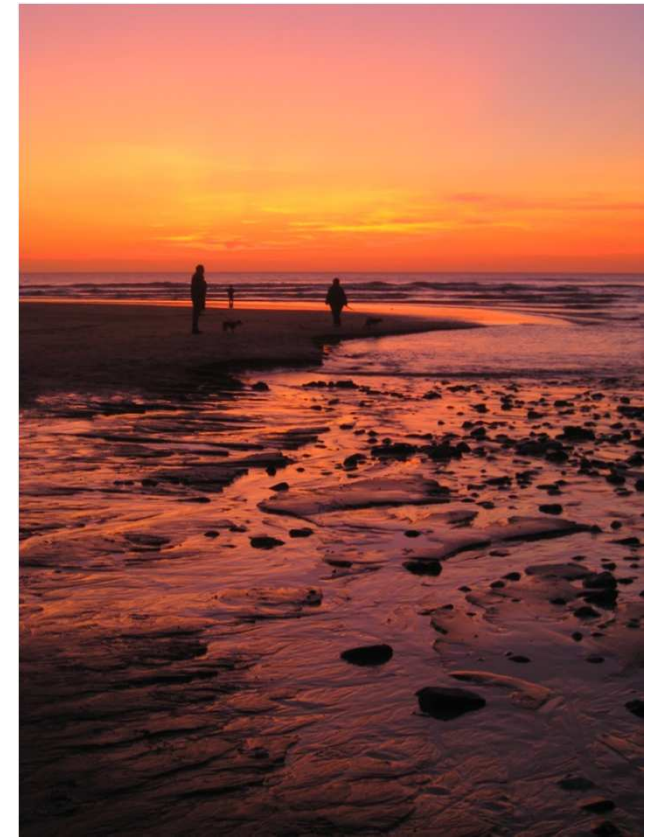
Data review - issues

- Data are held by a large number of disparate data holders.
- Difficulty tracking updates to data owners and information.
- Lack of availability of information for metadata. Leading to non-MEDIN/INSPIRE compliance.
- Poor spatial and temporal records, and lack of protocols.
- No existing keywords.

MEDIN
marine environmental
data & information network

THE MARINE BIOLOGICAL ASSOCIATION

Data review - recommendations

• Develop and promote a detailed action plan for marine social and economic data

• Improve communication between scientists and marine managers

• Improve data management and access

• Develop and promote metadata guidelines and standards

• Develop a set of keywords

• Address gaps in the data

MEDIN
marine environmental
data & information network

THE MARINE BIOLOGICAL ASSOCIATION

Marine Management Organisation
South coast recreational activity mapping

MEDIN
marine environmental
data & information network

THE MARINE BIOLOGICAL ASSOCIATION

MMO - South coast recreational activity mapping

In December 2012 the MMO funded a project titled "Compilation of spatial data on marine recreation activities: Phase 2" to Marine Planning Consultants (MPC).

Project aims;

- Gap fill spatial data for the South coast marine plan
- Hold stakeholder consultation workshops
- Develop tools to aid future data gathering

MEDIN
marine environmental
data & information network

THE MARINE BIOLOGICAL ASSOCIATION

New data guideline

- Development of tools to assist future data collection and sharing is a crucial part of this contract.
- A new data guideline for recreational data has been developed.

Heading	Requirement	Description
Purpose	Optional	An explanation of why these data were gathered. For what project/reason? Details should be provided regarding the project name/title, the date period over which the project was conducted and any related resources, be they a project website or report.
Driver	Optional	Category(ies) into which dataset purpose might fall, as defined from the specified list (right). More information can be found in the guidance document.
Spatial Data Parameters	Description	Why is this location of significance? i.e. Why survey here? See supporting document

VALMER

valuing marine ecosystem services in Europe

VALMER

- **11 partners**
- **€4.7 million project**
- **UK and French partnered project**

Aims:

"To examine how improved marine ecosystem services assessment can support effective and informed marine management and planning"

www.valmer.eu/

Work packages

- Work Package 1 – Assessing and valuing marine ecosystems

- Work Package 2 – Developing data support for VALMER

- Work Package 3 – Building scenarios for ecosystem service valuation

- Work Package 4 – Applying ecosystem service valuations to improve marine planning and management

- Work Package 5 – Communication and stakeholder engagement

MEDIN
marine environmental
data & information network

THE MARINE BIOLOGICAL ASSOCIATION

www.mba.ac.uk

Improving marine social and economic data within VALMER

VALMER provides a platform to develop and test new data management guidelines and ideas.

Current outputs:

- New specific vocabularies covering:
    - Governance designations
    - Governance objectives
    - Monitoring of activities and pressures
    - Environmental pressures
    - Human activities

These lists are currently being developed alongside the EU MSFD pressures group.

- Workshops for best practice in social and economic data management, and best practice documentation.

Vocabulary lists

Two vocabularies;

•M05: MEDIN socio-economic governance objective categories

•M06: MEDIN monitoring activity categories

•Published and available as a BODC controlled vocabulary for use in MEDIN metadata.

•Also available through SeaDataNet infrastructure.

Governance designation sub-category Keywords

Keyword	Description
Statutory governance boundaries - Conservation	Delimiting the boundary of areas statutorily designated for the maintenance and/or conservation of biodiversity, natural heritage of habitats, species, landscapes or cultural heritage.
Statutory governance areas - Conservation	Delimiting the area of areas statutorily designated for the maintenance and/or conservation of biodiversity, natural heritage of habitats, species, landscapes or cultural heritage.
Statutory governance boundaries - Socioeconomic	Delimiting the boundary of areas in which statutory regulations for specific human activities are in operation. Regulations may have both spatial and temporal components.
Statutory governance areas - Socioeconomic	Delimiting the area of areas in which statutory regulations for specific human activities are in operation. Regulations may have both spatial and temporal components.
Voluntary governance boundaries - Conservation	Delimiting the boundary of areas statutorily designated for the maintenance and/or conservation of biodiversity, natural heritage of habitats, species, landscapes or cultural heritage.
Voluntary governance areas - Conservation	Delimiting the area of areas statutorily designated for the maintenance and/or conservation of biodiversity, natural heritage of habitats, species, landscapes or cultural heritage.
Voluntary governance boundaries - Socioeconomic	Delimiting the boundary of areas in which voluntary regulation of specific human activities are in operation. Regulations may have both spatial and temporal components.
Voluntary governance areas - Socioeconomic	Delimiting the area of areas in which voluntary regulation of specific human activities are in operation. Regulations may have both spatial and temporal components.

Summary

Marine social and economic data management practices in the UK are improving.

This forward momentum is being the result of four extremely important drivers;

Marine planning

Marine Conservation Zone monitoring

Ecosystem services valuation needs

Marine Strategy Framework Directive

Work currently taking place in the UK provides a platform for continued improvement and modernisation of social and economic data management practices

www.mba.ac.uk

Thank you for listening

Leoni Adams

+44(0)1752 633291
leoams@mba.ac.uk