

Marine Data & Information: Recent progress and current Users' needs?

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Content

- Users' views ~5-8 years ago
- Key messages
- Recent developments
- Users' needs now?
- Recommendations for future activities
- Conclusions

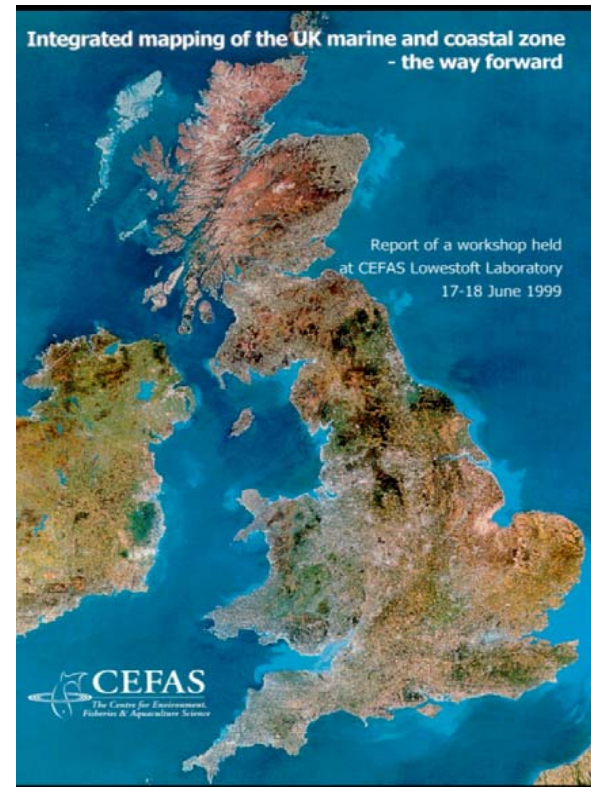
Users' views – 1999 (1)

- CIRIA Project workshop on management of coastal data – factors affecting data use
- “Data customers are unable to find data”
- “Data customers are unable to assess the quality of data”
- “Data suppliers are unsure of what customers require”

Users' views – 1999 (2)

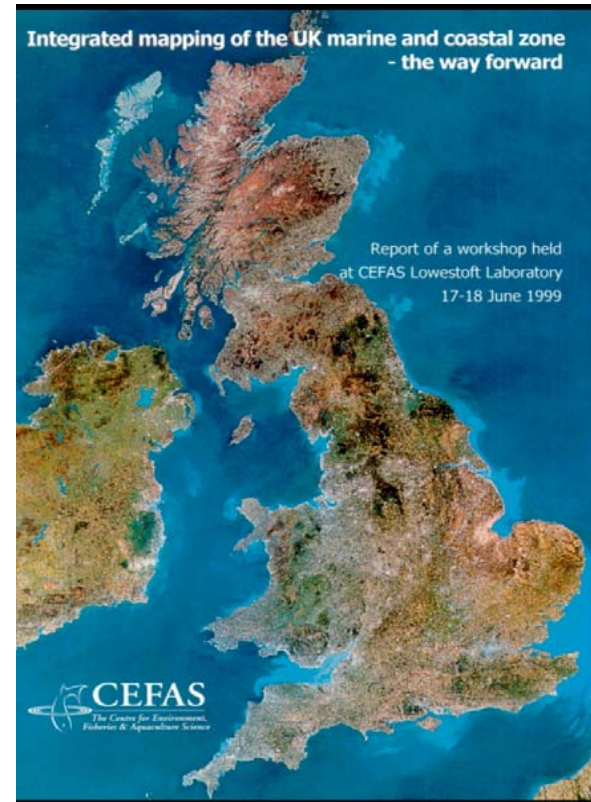
- Conclusions:

- *Users need flexibility*
- *Inadequacies in information and access*
- *Future requires: Holistic, Coordinated, Unrestricted approach*
- *Urgent action required*



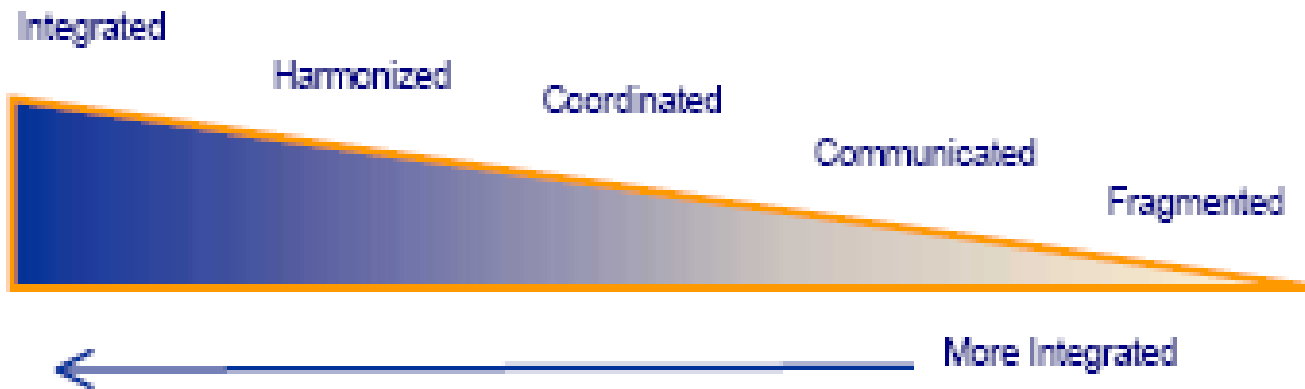
Users' views – 1999 (3)

- Priorities:
 - *Raise profile*
 - *'Invest to save'*
 - *Establish coordination mechanism*
 - *Provide better access to information*
 - *Establish core datasets*
 - *Research*



Users' views 5 years ago – (1)

- “Need more integration”



After Cion Sain (1993)

Users' views:

5 years ago (2)

- Extensive questionnaires
- Substantial responses
- Some distinct themes
- A sense of frustration
- “Do something; anything!”

Delivering Integrated Marine Mapping for the UK

Report of a Defra-funded workshop
held at Church House, London,
11 September 2002



Users' views 5 years ago – (3)

- What do you regard as the main constraints?
 - “lack of vision”
 - “lack of will”
- What would you wish for the future?
 - “Free or low cost public data”
 - “Integration”
 - “Availability of Key data sets”
 - “Base maps / common coastline”

Key Messages from 2002:- (Delivered?)

- ~7 pages of Conclusions and 6 Key Actions
- “Developments must be demand led”
- “Business case for integration to be established”
- “Need to secure national commitment to base data free of charge (coastline & nearshore bathymetry)”
- “Centres of excellence to be established”
- Problem of short-term initiatives, funding led

Recent Developments (1)

- Some answers to:
 - “where are we now?”
 - “where do we want to go?”

Recent Developments (2)

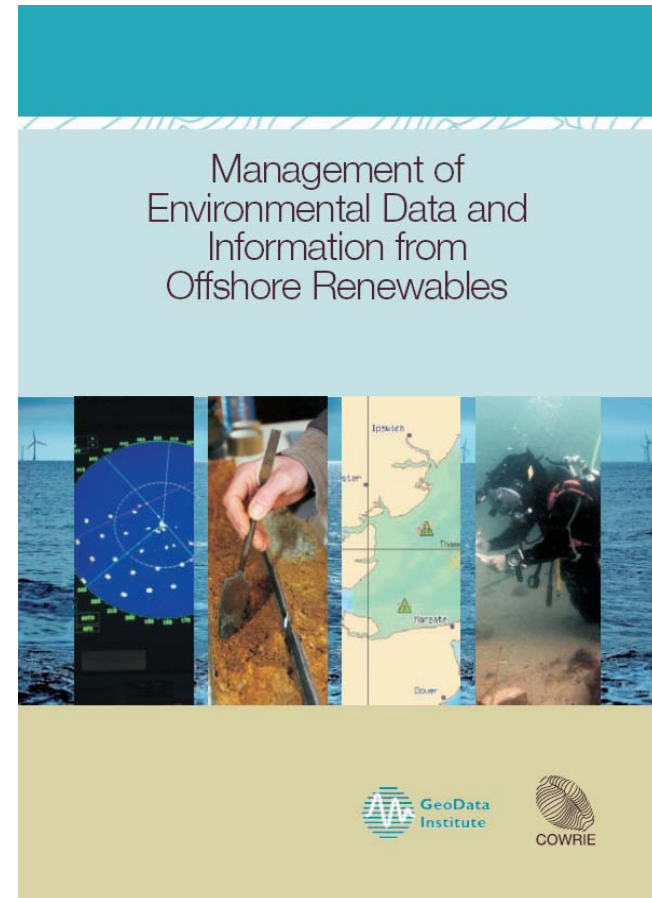
- MDIP – more later
- Numerous Projects, ie UKSeaMap / MESH
- Offshore Wind
- UKDMOS
- UKMMAS – and the Contributory Marine Objectives

UKSeaMap / MESH

- UKSeaMap - follows on from Irish Sea Pilot
- Spatial information layers
- Seabed landscapes and water column features
- Access to some data sets
- Broad regional and national perspective
- Addressed confidence / limitations
- *But: not suitable for new developments*
- *Project has now essentially finished*
- *Issues re. sustainability*

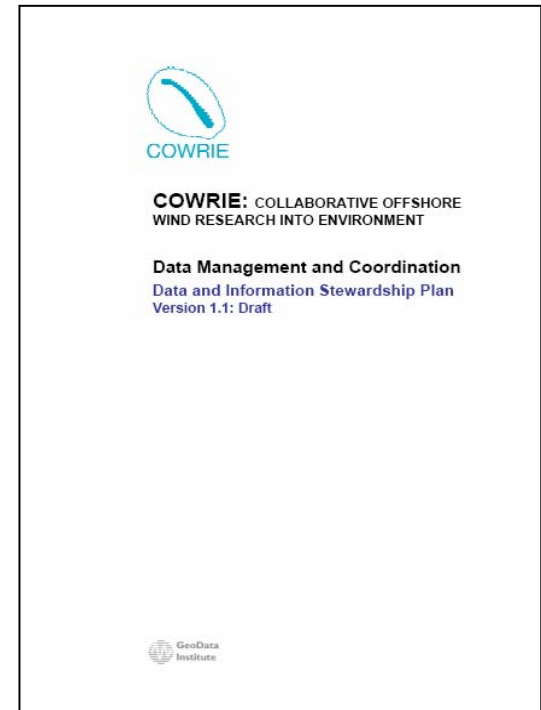
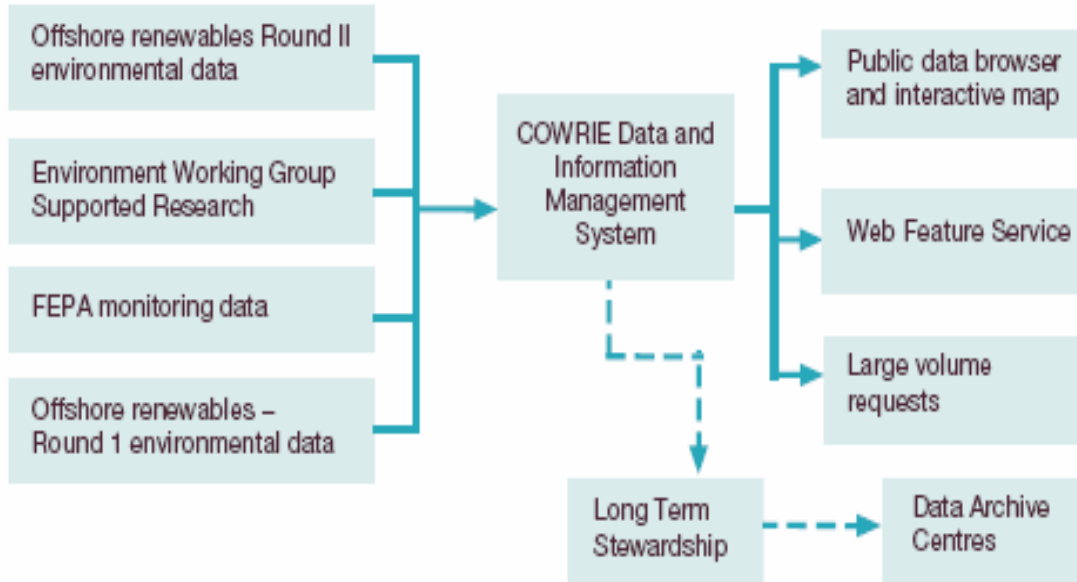
Offshore Wind (1)

- <http://data.offshorewind.co.uk/>
- Source for all environmental records and information generated under Round II windfarm leases
- “The tenant grants to the Commissioners a perpetual non-exclusive right to use and make publicly available for any purpose ... data provided ... to them .. “
- COWRIE is a vehicle to implement The Crown Estate’s rights re. the data



Offshore Wind (2)

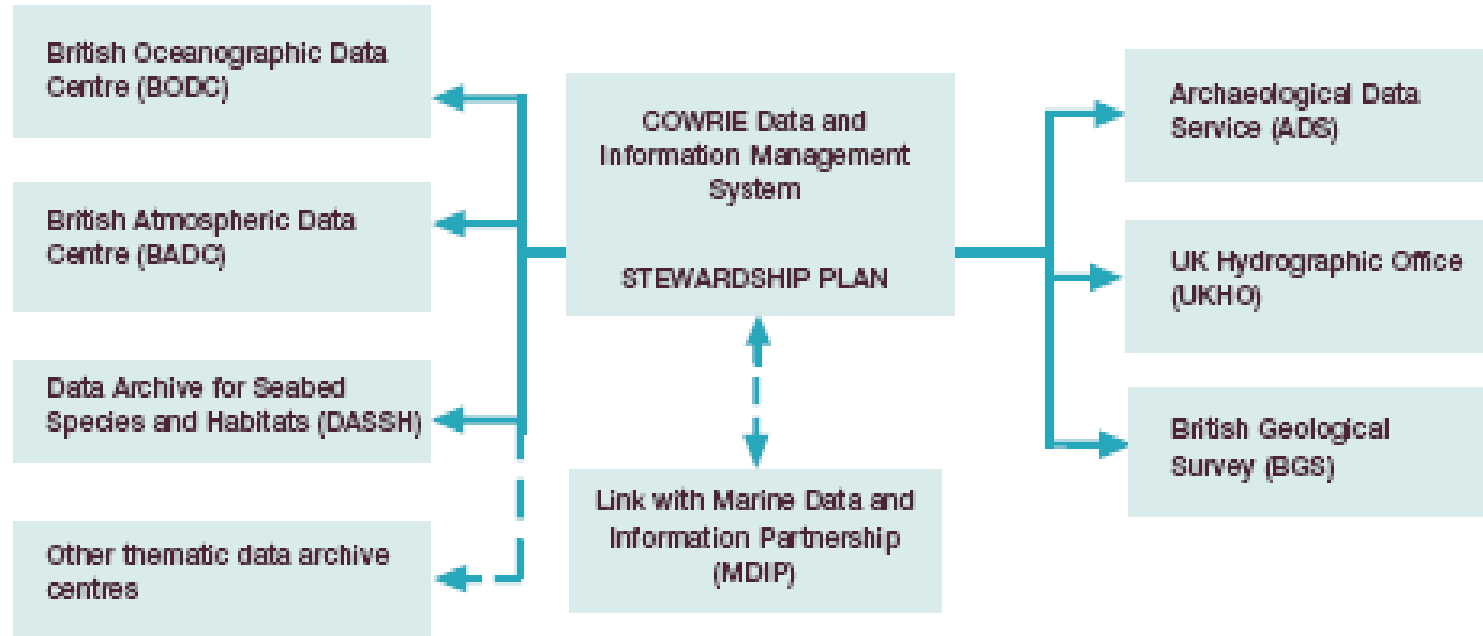
Figure 1. Data and information inputs, management access and archive arrangements within COWRIE



Data structure and Plan

Offshore Wind (3)

Figure 4. Proposed structure for the COWRIE data stewardship



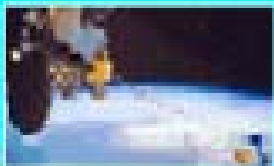
Possible Data Stewardship

Offshore Wind (4)

- Is the COWRIE data process an exemplar of what to do and how?
- Lessons?
- Key is getting contract conditions correct
- Insist on a DIMP
- Be very careful with IP
- Not all problems yet solved – but
- MDIP etc, has a significant role to play

UK Marine Monitoring and Assessment Requirements Estimated Annual Costs 2007-2017

Current estimated UK spend (around £37m),
Conservative estimate to meet existing and new requirements (around £60m),
Possible estimated funding gap (around £23m),



Satellites including
GMES
£3m, £3m

Data, Assessment & Project Management
£0.2m, £1.5m, £1.3m

Seabirds
£1m, £1.9m, £0.9m

+ socio-economic
parameters

Permanent stations for
CC studies (MECN)
£0.3m, £1.5m, £1.2m



Temperature and
Salinity (including
ARGO)
£1.5m, £2m

Fish Stocks
£17m, £17m,
£0.5m



Plankton
£0.3m, £0.8m,
£0.5m

Noise
£0m, £0.2m,
£0.2m

Litter
£0m, £0.4m,
£0.4m

Bathing Waters/Shellfish
Hygiene etc
£2.3m, £2.5m, £0.2m

CO₂ Acidification
£0m, £1.3m



General health of
Marine Mammals
(including By-catch)
£1m, £1.5m, £0.5m

Pollution
£5m, £6.5m,
£1.5m

Waves/Met Ocean and
storm surges
£3.5m, £3.5m

Nutrients
£0.4m, £0.8m,
£0.4m

Modelling
£0.1m, £0.3m, £0.2m

Biodiversity status
£0.3m, £3.6m,
£3.3m

Health of Benthos
£0.1m, £1.3m,
£1.2m

Physical Damage,
(Windfarms / Dredging)
£0.8m, £2m, £1.2m

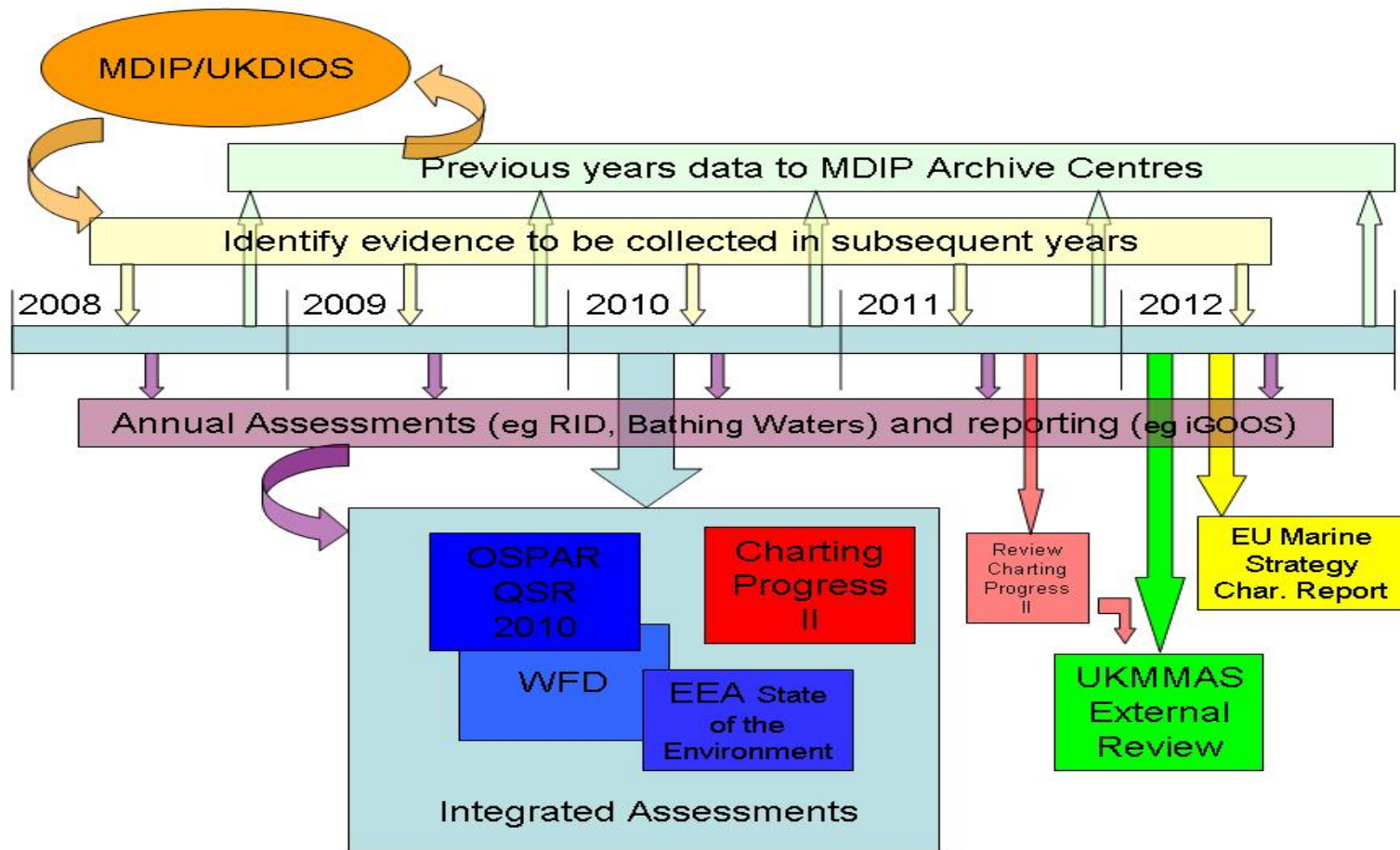
Seabed Mapping
Habitat types; geology and bathymetry
£0.2m, £8m, £7.8m

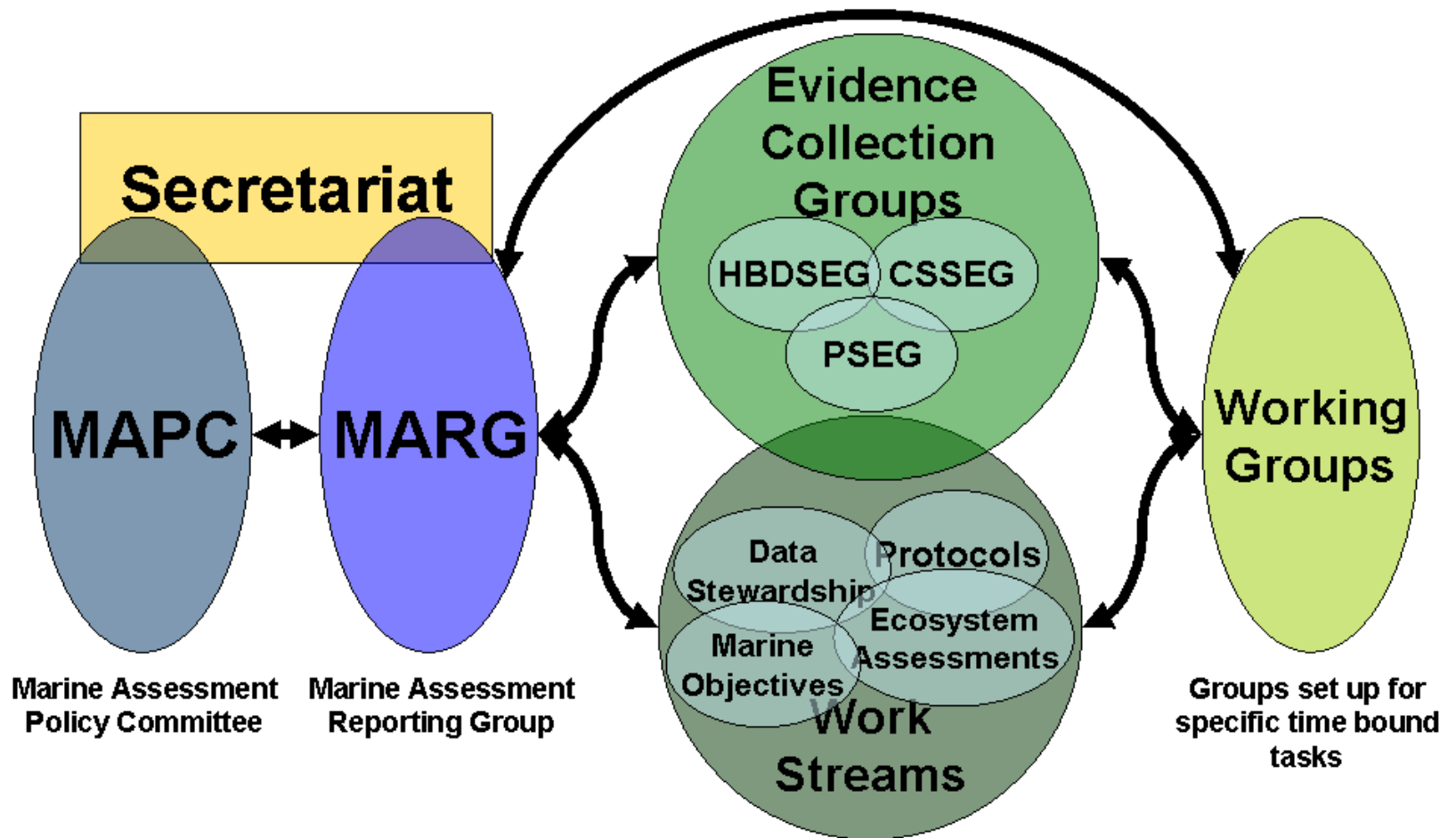


UK Directory of Marine Observing Systems (UKDMOS)

- <http://www.oceannet.org/medag/projects/UKDMOS.htm>
- The “where, when and what is being monitored” for the UK
- Searchable GIS metadatabase, down to level of individual site
- Still only a special project; needs to be sustained

Drivers for UKMMAS





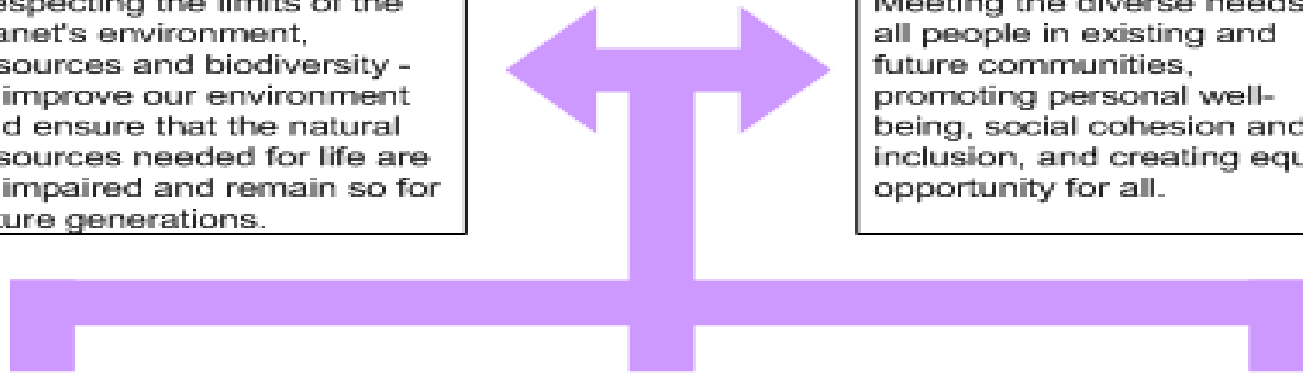
UKMMAS Structure

Hierarchy of Objectives

- The top level Marine Objectives support the proposed Marine Policy Statement
- Contributory Objectives support the overarching Marine Objectives and span SD principles
- Evidence Groups support relevant Contributory Objectives
- *Steady progress but some overlap yet to be sorted and fine detail to be agreed*

Living Within Environmental Limits
Respecting the limits of the planet's environment, resources and biodiversity - to improve our environment and ensure that the natural resources needed for life are unimpaired and remain so for future generations.

Ensuring a Strong, Healthy & Just Society
Meeting the diverse needs of all people in existing and future communities, promoting personal well-being, social cohesion and inclusion, and creating equal opportunity for all.



Achieving a Sustainable Economy
Building a strong, stable and sustainable economy which provides prosperity and opportunities for all, and in which environmental and social costs fall on those who impose them (Polluter Pays), and efficient resource use is incentivised.

Using Sound Science Responsibly
Ensuring policy is developed and implemented on the basis of strong scientific evidence, whilst taking into account scientific uncertainty (through the Precautionary Principle) as well as public attitudes and values.

Promoting Good Governance
Actively promoting effective, participative systems of governance in all levels of society - engaging people's creativity, energy, and diversity.

Shared UK Principles of Sustainable Development

Data requirements for UKMMAS

- Complex!
- Data drivers are the contributory objectives and their related indicators
- Examples for Productive Seas Evidence Group (PSEG)

Draft Contributory Marine Objectives (CMO's) – Human Use

- Use of biological resources
- Renewable energy
- Extractive industries
- Provision of Goods and Services - national needs

‘Goods & Services’ includes:

Transport and Ports; Leisure and Tourism; Construction; Disposal; Defence; Carbon sequestration; Scientific Archaeological interests (Wrecks); etc.

- CMO's have suites of Indicators and data sets

Users' needs now?

- Increasingly need to be better informed
- Provenance of Data & Information ever more important
- Sustainable development requires a wider set of parameters
- Time is extremely valuable
- Knowledge of 'what is where' is vital for efficiency
- 'Marine Planning' is a significant new requirement

Recommendations for Future Activities

- Better mechanisms re. knowledge of what has been done / is available (*UKDMOS a good start?*)
- Improve availability (and cost) of data & info.
(*Offshore wind an exemplar?*)
- Greater focus on sustainable infrastructure rather than short-term projects (*Perpetual funding is difficult*)

Conclusions

- Progress is slow
- A number of old problems remain
- Cost of data and information is still an issue
- Number and range of datasets rapidly increasing
- Robust Data management is vital to success of the UK's ability to fulfil its obligations and to manage its seas
- Substantial increases in costs of data collection and stewardship
- Infrastructure rather than projects is still a big issue
- Significant positive progress since 2002!