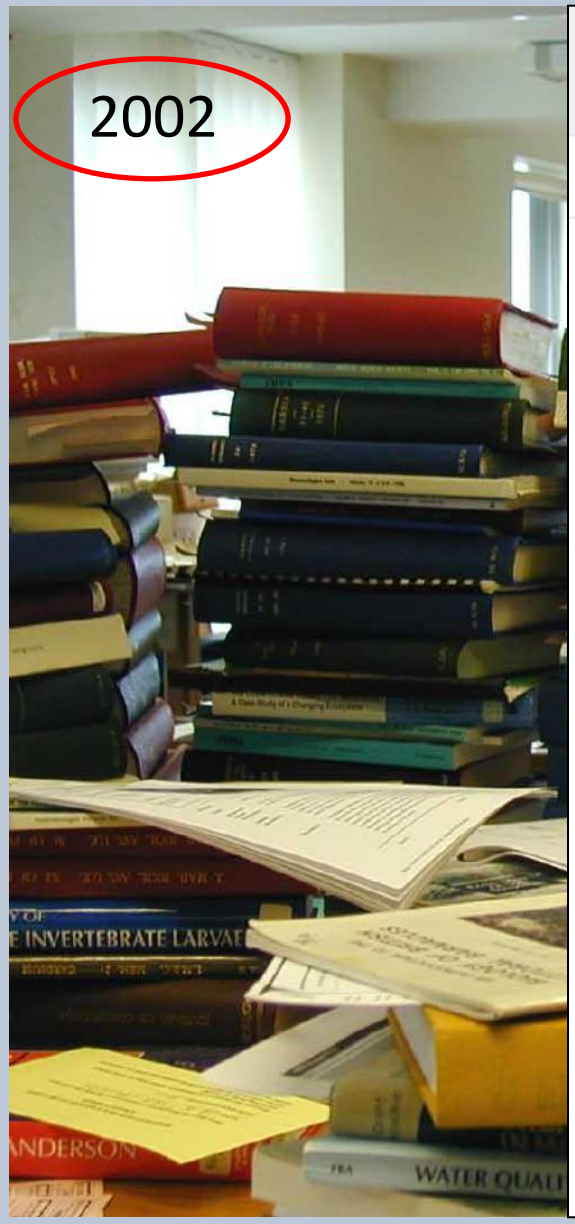
MCZs and Evidence

Keith Hiscock
Marine Biological Association

"*Reliable and accurate information that Defra can use to support sound decisions in developing, implementing and evaluating policy*".

- Where are we now with 'evidence'?
- The 'problem' with OSPAR's slogan
- MCZs – what evidence do we need now for management?
- MCZs – what we have now (a brief example)
- The 'evidence cascade'

Overwhelming amount of literature out there



2014

Google effectiveness of MPAs

Web Images Maps Shopping More Search tools

About 114,000 results (0.24 seconds)

Scholarly articles for **effectiveness of MPAs**

Measuring **effectiveness** in **marine protected areas**— ... - Day - Cited by 31

... management **effectiveness** of **marine protected areas** - Pomeroy - Cited by 256

Evidence - Scott - Cited by 1115

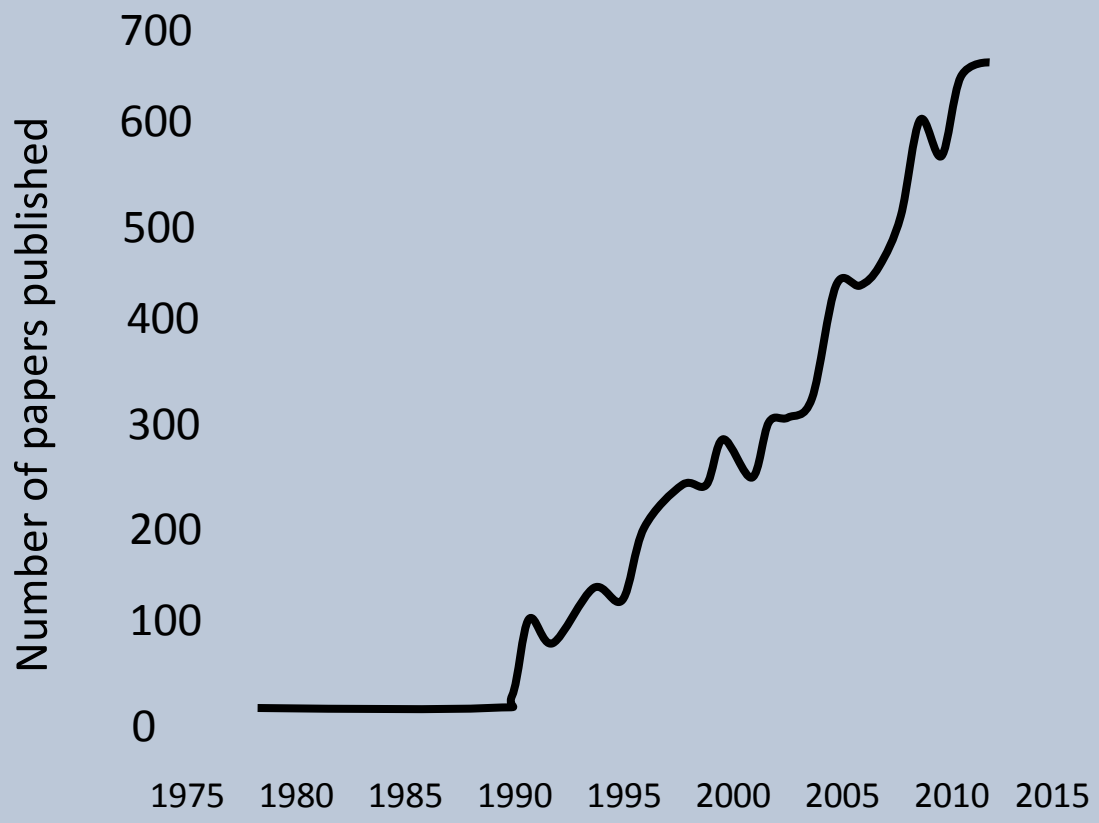
[PDF] Evaluating the Management **Effectiveness of Marine Protected A**...
www.wwf.org.uk/filelibrary/pdf/**mpa**_mgmteff0705.pdf
14 Jul 2005 - evaluation of the management **effectiveness of MPAs** that were set ... constraints and barriers to the effective management of MPAs in the UK.

National **Marine Protected Areas** Center: **MPA Effectiveness**
marineprotectedareas.noaa.gov/nationalsystem/**effectiveness**/
"Management **effectiveness**" is the degree to which a marine protected area achieves its goals and objectives.

[DOC] What is 'management **effectiveness**'? - OSPAR Commission
www.ospar.org/.../07-05e_guidance%20assessing%20**mpa**%20managmn...
Within OSPAR, the driver for assessing management **effectiveness of MPAs** has arisen from the 2003 joint Ministerial Meeting of the Helsinki and OSPAR ...

Marine protected area - Wikipedia, the free encyclopedia
en.wikipedia.org/wiki/Marine_protected_area
An alternative definition from the IUCN of an **MPA** is, "a clearly defined geographical space, recognized, dedicated, and managed through legal or other **effective** ...

Evidence: the scale of the task (just one example)



Number of papers on estuarine and coastal recovery published annually. From Duarte *et* al. 2013. Paradigms in the Recovery of Estuarine and Coastal Ecosystems. *Estuaries and Coasts,* DOI 10.1007/s12237-013-9750-9

‘Improvements’ in what we know (since 2010)

In particular, we now know a lot more about:

• The scale, frequency and character of natural fluctuations

• The rate and trajectory of recovery of previously exploited species and damaged habitats when damaging pressures are removed

• Which methodologies for gathering evidence work (in situ survey and sampling, some acoustic techniques) and which do not (are unreliable and inaccurate: algorithms to predict seabed types; Acoustic Ground Discrimination methods) – they may improve

And a little bit more about:

• What is where in the way of habitats and species

• The character, rate and trajectory of recovery of seabed habitats and species when damaging pressures are removed

• The biological traits of species that help to determine their ‘sensitivity’

We have made little or no progress in better understanding (or, more precisely, influencing policy advisors to better understand):

• What are the seabed species and habitats that would benefit from conservation measures

• What are the species and habitats that will not benefit from or do not need conservation measures

Understanding what MPAs can and cannot do

Marine Conservation (MCS magazine), Autumn 2013

OSPAR COMMISSION

Protecting and conserving the North-East Atlantic and its resources

….. establishing an ecologically coherent network of well-managed MPAs in the North-East Atlantic by 2010

An aspirational, scientifically flawed, linguistically inept, impractical slogan

But, the saving grace:
…… "well-managed"

Even as late as 2012, OSPAR had to declare* "no specific definition for the term 'ecological coherence' has yet been formally agreed upon internationally and only a few theoretical concepts and practical approaches have been developed for an assessment of the ecological coherence of a network of MPAs."

* OSPAR (2013) *2012 Status Report on the OSPAR Network of Marine Protected Areas*, Publication Number: 618/2013, OSPAR Commission, London

Getting better at gathering evidence

JNCC Offshore Survey Blog

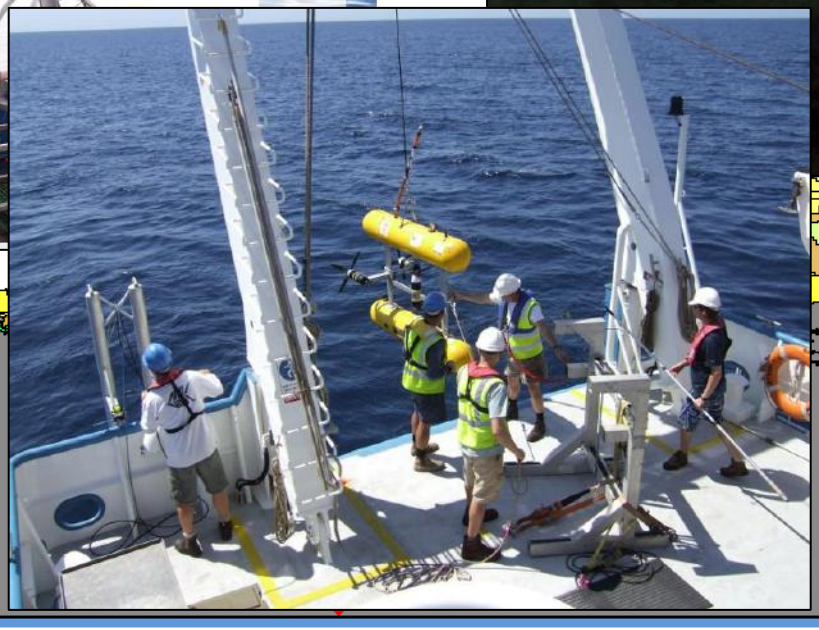
As part of our statutory responsibility to recommend Marine Protected Areas (MPAs) in UK offshore waters (beyond 12 nautical miles), JNCC gathers information to help support these recommendations; either by searching and retrieving existing information, or through collaborative or commissioned survey. Once these MPAs have been identified, further information gathered through survey may be required to deliver management measures and conservation advice. JNCC survey work takes place throughout the year and our staff who join the research vessels will blog throughout the survey sharing information and images from the survey.

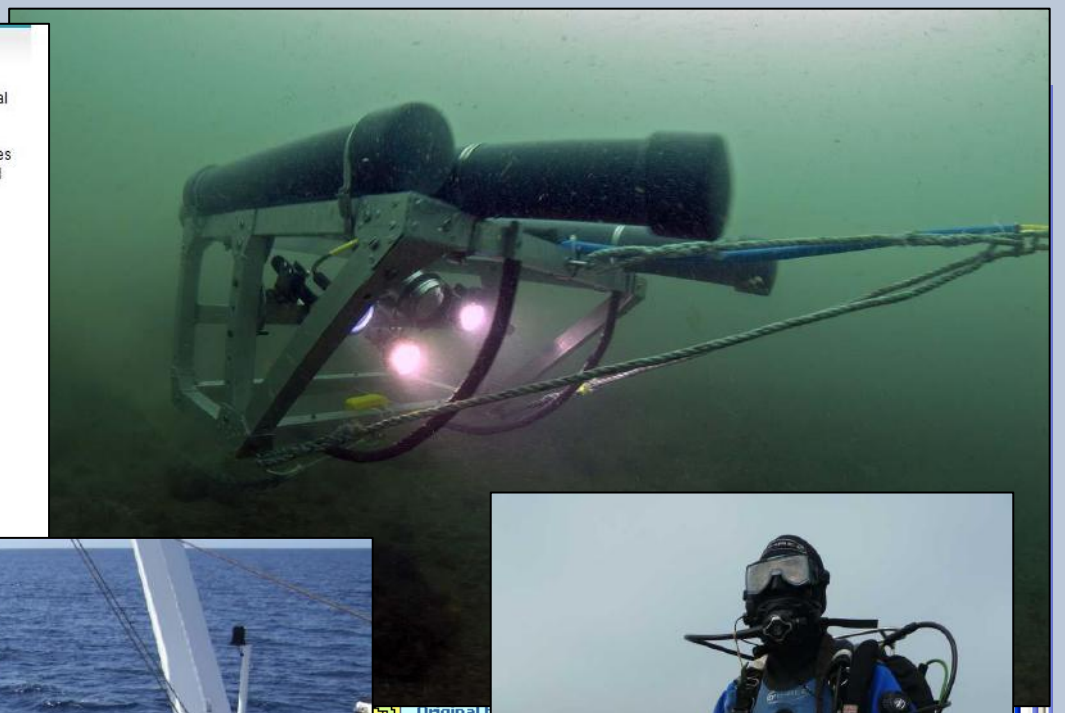
JNCC Offshore Survey blog

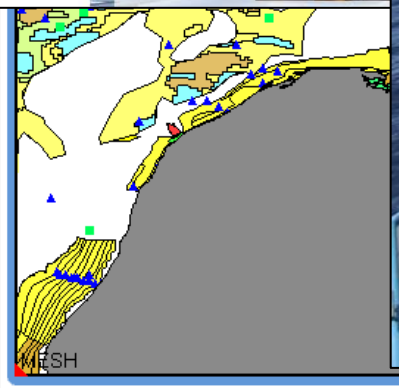
The Hamon Grab

The Hamon Grab (the 'Ham Cam') is one of the main bits of survey equipment that we are currently using whilst surveying rMCZ South-West Deeps West. One of the useful things about the Hamon Grab is that three different types of information can be collected- a picture of the seabed before it takes the grab, the sediment present and any animals living in or on the sediment (macrofauna).

The Hamon Grab is deployed over the side of the boat and lowered down to the seafloor where it takes a picture and a sample of the seafloor. It is then lifted back on board.







So, what evidence do we need to improve for undertaking management of MCZs?

- We need better knowledge of **biological traits** especially of designated taxa and of species characteristic of or dominant in threatened biotopes
  in order to use 'sensitivity' more extensively in environmental protection and management.
- We need to analyse and catalogue in an accessible way knowledge of **events** and their effect on (usually) species that will help to interpret change.
- We need to get a better understanding of '**rarity'** and how to identify species that are rare and scarce.
- We need to resurrect **Nationally Important Marine Features** , and use the **'Designated taxa'** list as our touchstone (i.e. not just BAP species!) (www.marlin.ac.uk/nimf)
- We need to continue mapping the distribution of species and biotopes by *in situ* survey.

And, what 'infrastructure' do we need to support management?

- We need to provide the 'touchstones' that managers should use and develop somewhere to 'put' reference observations of change and recovery that will be accessible.
- We need to better educate the current and next generation of managers, policy advisors and policy makers.

Policy advisors and policy makers may prefer / also refer to:

Olsen, E. M., Johnson, D., Weaver, P. *et al.* (2013) 'Achieving ecologically coherent MPA networks in Europe: science needs and priorities. Marine Board Position Paper 18', in K. E. Larkin, and N. McDonough (eds.) *European Marine Board Working Group on Marine Protected Areas,* European Marine Board, Ostend, Belgium

The evidence is that this is the best known example anywhere in Britain of ‘Fragile sponge and anthozoan communities’ (a FOCI habitat in the MCZ ENG) including many rare and scarce species, one known from only four locations worldwide, one new record for Britain, and many highly sensitive to damaging activities.

Image from this site used in the Folkstone to Pomerania MCZ – very misleading, even dishonest!

And, what is the MCZ where that biotope occurs designated for?

The Isles of Scilly Marine Conservation Zones Designation Order 2013

SCHEDULE 5 Articles 3(2)(e) and 4(e)

Lower Ridge to Innisvouls

(one of 11 areas that constitute the IoS MCZs)

Protected features

Protected feature	*Type of feature*
Moderate energy intertidal rock	Broadscale marine habitat
Spiny lobster (*Palinurus elephas*)	Species of marine fauna

One has to ask "Was it worth the bother?"

The site is also within the Isles of Scilly SAC where reef habitats are designated

MCZs should have been an opportunity to enhance knowledge of locations and therefore improve management of activities that may damage marine natural heritage importance of those locations.

Not listing the attributes that would benefit from conservation measures in MCZ Designation Orders is a major missed opportunity to 'do-better'.

"*Reliable and accurate information that Defra can use to support sound decisions in developing, implementing and evaluating policy*".

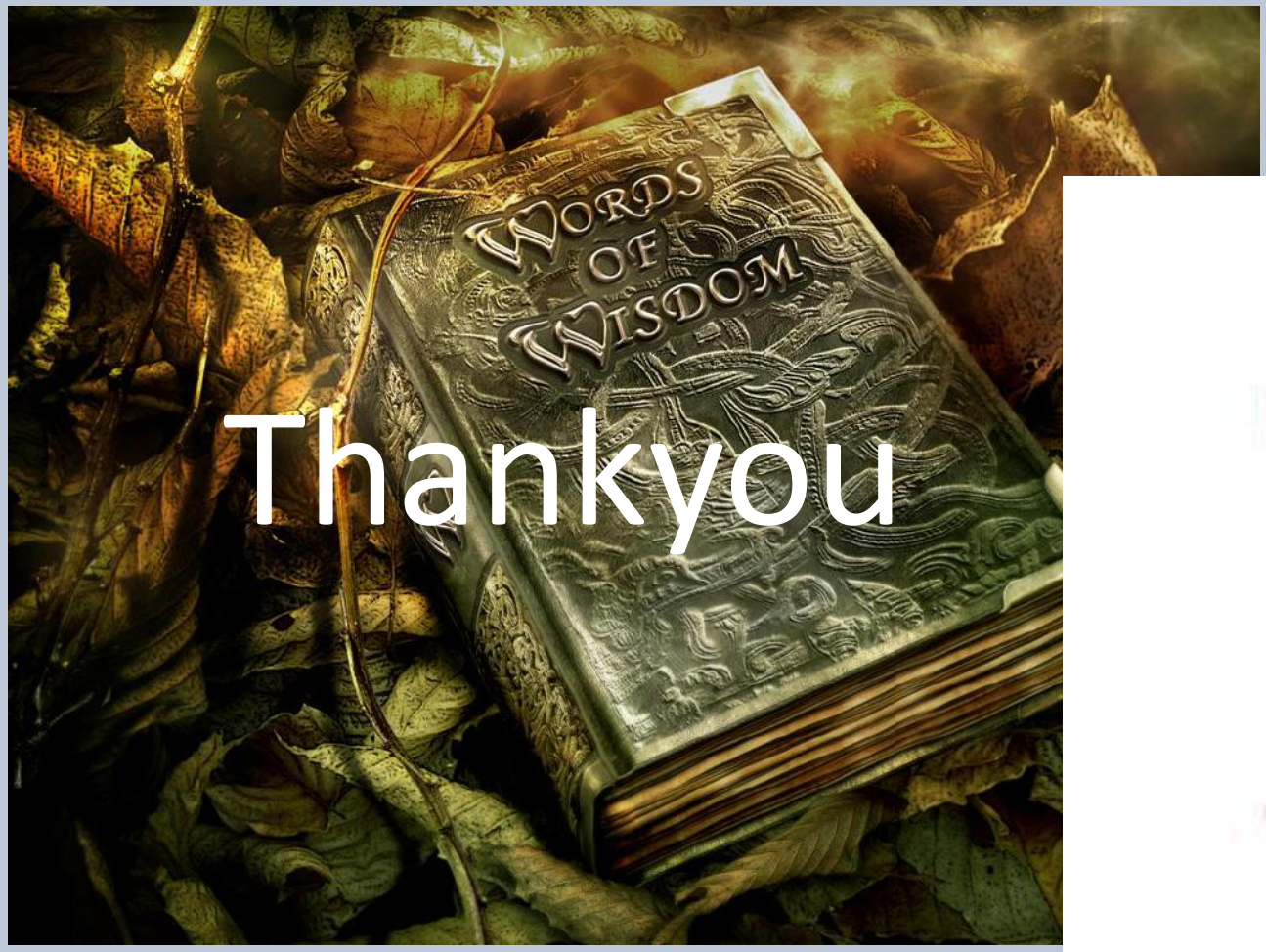
Including data and information from:

Peer-reviewed publications

Best available data and information from reliable sources

Best available advice (a.k.a. wisdom) from knowledgeable and experienced marine ecologists

‘Wisdom’ – where does it come from?



Thankyou

There are such books – read them

But what you really need is a Wise Old Elf