

Sustainable use of marine resources: what does this mean?

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It is a truth universally acknowledged, that a country in possession of marine resources, must manage them sustainably. “Sustainability” is a universal “good”, and can mean anything. As a result it means nothing.

The paper will describe the bases of current thinking on sustainability and how the many different current meanings evolved. Beginning with the original meaning of the term “Sustainable Development”, that focused on the future availability of resources, and going on to the “three pillars” approach which attempts to integrate social, economic and environmental valuations. The many paradoxes and weak logic underpinning much of our thinking on sustainability will be described.

We present a framework for the assessment of sustainable use which is true to the original meaning of sustainability and argue that it is counter-productive to attempt to bundle environmental, social and economic valuations together within a single label.

Our proposed approach allows extractive and non-extractive industries to be compared fairly, and for sustainable use of stocks, seabed and marine wildlife to be measured in the same units. The core principle is that uses of the marine environment should not have irreversible effects, and should allow ecosystems to return to a natural state within a societally-acceptable time period. Users of the marine environment do not have to demonstrate that the environment is currently in a natural state, or even close to it, in order for their uses to be sustainable. They would, however, need to demonstrate that the system can return to a natural state. Such an approach allows for human-induced change, but does not remove options from future generations.

We argue that uses which cannot pass this test cannot be described as sustainable. If society deems them sufficiently important that they should proceed anyway then the consequent impacts on future generations must be considered “acceptable” losses.

The important thing is to be honest about the difference.

An approach based on the ability of systems to recover would allow the ecosystem effects of fishing to be considered in the same way as the yields of stocks. In systems such as Marine Stewardship Council certification the scoring systems for stock sustainability and the effects of fishing on ecosystems currently use different methods. We argue that this is not necessary and that a system which seeks to recognise sustainable fisheries ought to measure whether impacts on non-target species and the environment are sustainable.

Finally, we provide ideas on how sustainability might be assessed in practice, and the roles of Marine Protected Areas as both tests and supporters of sustainable use. In this context we argue that the Scottish Government’s Development and Research MPA system is an ideal mechanism.

Nothing can be more important than ensuring the survival and prosperity of future generations. We argue that current uses of the terms “sustainability” and “sustainable” obscure the real issue and that a return to a definition which focuses on the future is needed.

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Science for marine management: Evidence and the Marine Management Organisation

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The Marine Management Organisation (MMO) is a non-departmental public body that is responsible for the management of England's marine area. This is a complex and demanding technical delivery role on behalf of the UK government, the success of which relies on sound decision making based upon robust science.

Integrated marine management (IMM) is a process that brings together policy makers, decision makers and stakeholders within a framework that facilitates the integration of their interests and responsibilities. The objective is to establish sustainable levels of economic and social activity in our marine area while protecting the environment. IMM is essential to the ecosystem-based approach and requires integration across different sectors; across the land sea interface; between different governmental bodies; and most importantly amongst different disciplines such as marine science, economics, social science and engineering.

It is essential that the decisions of the MMO can be objectively justified. To do this we must have robust decision making processes that use the best available evidence and allow for any uncertainty in the underpinning science.

Within the MMO Evidence Strategy, science and evidence falls into 3 themes:

1. Describing the marine environment
2. Interactions in the marine environment
3. Integrated marine management

The MMO Evidence Team is responsible for delivering the Evidence Strategy and working with the scientific community to gather the best evidence to support marine management.

Using specific examples of MMO's evidence requirements that may interest MASTS this presentation will illustrate:

- the breadth of the MMO's remit,
- how MMO identifies its science needs,
- where more information about these requirements can be found,
- how the MMO fills gaps in knowledge
- how this fits within the larger framework across the Marine and Fisheries remit of the Defra group of organisations

This presentation provides an opportunity to consider MMOs current evidence requirements within the interests of MASTS and how MMO and MASTS members may interact to enhance the science used for marine management.
