



1. Requirement overview:

Requirements	Understand the changes affecting marine plan areas in the North West, North East, South East and South West over the next 20 years
Requirement detail	<p>Assessments should include:</p> <ul style="list-style-type: none"> • likely trends • resulting changes in sector size, distribution and activity levels • anticipated social, economic and environmental impacts associated with these changes <p>Assessments should also consider marine plan areas' futures and focus on marine protected areas within the marine plan areas.</p> <ul style="list-style-type: none"> • Spatial information is preferred but is not dependent on a complex predictive model. Scenarios are not a critical component, but would be considered useful.
MMO use	<p>Marine Planning:</p> <ul style="list-style-type: none"> • provide insight into likely development of sectors over the period of the marine plans, influencing policy development for future development of sectors including economic, social and environmental impacts • form part of the evidence base for marine planning • help to identify issues that marine plans need to deal with <p>Marine Conservation:</p> <ul style="list-style-type: none"> • inform decisions on future management of marine protected areas, potentially highlighting where activity that would affect marine protected areas will change over time
External interest	Natural England, Environment Agency, Cefas and JNCC
Delivery target	2018, Quarter 2

2. Aims and objectives

Aim:

To deliver an analysis of trends and their influence on sectors over the next 20 years, with reference to marine plan areas and marine protected areas.

Objectives:

- review trends in the individual marine industry sectors over the last 10 to 20 years for the remaining marine plan areas
- review the key changes and/or advances of significance affecting the sectors (including technological advances, changes in ecosystems, management policy, economics)
- review industry projections (individual sectors) for the next 6 and 20 years (and identification of where future development areas may be constrained by, or impact upon protected habitats and species)
- review the current policy directions of relevance
- analyse additional intelligence on potentially significant future changes (both England relevant and global megatrends) that might affect the above going forwards
- identify key gaps and limitations of current knowledge for the past and future trends

3. Existing evidence

MMO	<p>MMO1039 and MMO1002. These are futures projects for the East and South marine plan areas and have relevant information for trends which may drive change in sectors in terms of predicted future activity.</p> <p>MMO1060 gives information on the range of industry sectors, how they can both be influenced by social factors and how they have primary and secondary impacts upon social characteristics.</p>
Academic	<p>Academic work on this subject is primarily related to analysis of futures exercises, to pull out applicable learning (Heron et al, 2016, Francis et al, 2011) or to looking at legislative and policy drivers (Fletcher et al, 2013), though academic institutes are often involved in producing futures work for particular clients, rather than for academic purposes.</p>
Other	<p>'Global Marine Trends 2030' (Lloyd's Register, 2013). This uses scenarios to illustrate how global trends may impact upon shipping worldwide providing some different sets of impacts for both ports and shipping sectors which may be of use.</p> <p>The Crown Estate: report looking at drivers of marine change in UK waters, through an ecosystem services lens (Saunders et al, 2010)</p> <p>Defra: business as usual projection of the marine environment for the Marine Strategy Framework Directive (Saunders et al, 2012) which provides baseline</p>

	information of relevance particularly for marine conservation aspects. UK National Ecosystem Assessment scenarios (Haines-Young et al, 2011) provide useful considerations of the future for the marine area
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4. Current activity

The MMO is currently involved in looking at whether the south west portion of this requirement can be part of a bid to the Natural Environment Research Council's Environmental Science Impact Programme.

5. Associated evidence requirements

Ref	Title
R027	The baseline economic environment of the marine plan areas
R056	Future responses to changes in management scenarios
R103	The baseline social environment of the marine plan areas

More information on these is available [here](#)

6. Potential delivery route

Although we have set out how we think we can deliver this evidence requirement, we'd like to hear from anyone interested in working with us to deliver all or part of this requirement.

Partnering within the Defra group

Other members of the Defra group also need to understand the future development of the marine area. Partnering may prove useful to pool resources and use expertise from a wider group of organisations in setting up and running the project.

Commissioning

This approach has been taken for the previous two MMO futures projects and has delivered work that has been useful for the teams it was aimed at. As this is a relatively specialist area, there are a limited number of organisations able to complete this work and directly commissioning one of them can be an effective method of delivery.

Apply for funding – research councils

This approach would see an academic institution applying for funding to work with the MMO on a futures project. It is possible that to include the crucial science aspects this route needs, that the scope of the project may need to be wider than if commissioning alone or partnering within Defra, but it may yield a more complete project as a result. There are academic institutions that undertake this kind of research, making it entirely possible, though with the risks of competing for funding against other projects and of the timescales associated with academic research.

Knowledge exchange

All of the above routes would require a period of knowledge exchange at the end of the project, in order to maximise the utility of the work. The form this takes will depend on the

route taken in part, but is likely to involve some form of workshop/presentation session with the authors of the work and the teams the work is most relevant to, as well as the potential for the work to feed into development of products by those teams.

See table 1 for timescales.

7. Contact

For more information or to add further research to the existing evidence list please email evidence@marinemanagement.org.uk

Table 1: Delivery timescales 2016 to 2020

Delivery Route	2016			2017				2018				2019				2020				
	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	
1. Partnering within the Defra group										Project complete										
2. Commissioning																				
3. Apply for funding – Research councils																				
4. Knowledge exchange																				

