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Dear Sir / Madam

Comments on Defra's Strategy for Marine Protected Areas, Delivering Marine Conservation Zones and European Marine Sites

Thank you for the opportunity to comment on your draft strategy for Marine Protected Areas. Here is our contribution.

Introduction

Seafish is a non-departmental public body that provides support to all sectors of the seafood industry. It has no official role in resource or environmental management but has an obvious interest in the outcomes of the management processes. Seafish has a publicly stated commitment to "the sustainable and efficient harvesting of those resources on which the UK seafood industry depends, the protection of marine ecosystems, and the development of marine aquaculture based on sustainable resource utilisation and best environmental practice".

We have identified and we will comment on the following 6 key areas of interest to Seafish:

1. Stakeholder engagement
2. Flexible planning
3. Multi-use MPAs
4. Socio-economic considerations
5. Conservation objectives
6. Site management

1. Stakeholder engagement

We are encouraged by Defra's commitment to engage with, and thereafter seek continued support from, all stakeholders in the delivery of an MPA network, as stated in various parts of the draft strategy:

p2: 'We are committed to delivering a strong network that has been built with the engagement of all stakeholders to ensure the network delivers protection for our valuable marine biodiversity whilst ensuring we continue to accommodate the wide range of activities that take place in our oceans and seas'.

p21: 'The network will be well supported and its benefits will be shared among sea users and the wider UK public'.

p21: 'Stewardship of the marine environment will be undertaken in an inclusive way that has secured the commitment of all stakeholders'.

And specifically in relation to MCZs:

p31: 'We want sea users and other stakeholders to participate in identifying MCZs and to work together to identify and deliver the management measures for these sites in establishing their location and boundaries'.

We whole heartedly agree that stakeholder participation is critical to the success of marine conservation policy, particularly in the marine environment where there are inherent enforcement difficulties and an incomplete scientific understanding of the marine ecosystem. Moreover, we include as stakeholders, not only fishermen's representatives, but also fishing communities and fishermen[1] themselves.

In particular, we welcome the acknowledge that the England MCZ project will be based on stakeholder engagement, and we note that the success of the MCZ work will very much depend on the involvement and support of all fishermen - for example by declaring prime fishing grounds and identifying important life stage areas for commercial species, such as spawning and nursery sites.

Fishermen probably know more about the seabed conditions around the UK than most scientists. Only 15% of our seabed has been properly mapped in respect of ground conditions, habitat types and species assemblages. This work is urgently required in order to provide a sound basis for marine planning and site designations.

Such valuable contributions, however, will only be made if fishermen believe the Government's MPA policy is fair, proportionate and inclusive. We want to avoid a repeat of recent marine conservation decisions on long standing fishing activities

[1] The term fishermen includes shellfish and finfish farmers

in the South West (most notably in Lyme and Falmouth Bay), which have provoked negative reactions amongst fishermen throughout the UK to Government marine conservation policy. In some cases, marine biodiversity work with the industry may have been set back five years or more.

Building trust is very hard to create but very easy to destroy, and developing meaningful engagement with fishermen takes time. Trust is founded on transparency, understanding, appreciation, respect and collaboration.

The following initiatives may help build up trust, and in some cases help to rebuild trust:

- Extensive communication with industry (not just industry representatives) on the need to protect marine biodiversity, including the potential benefits afforded by MPAs to commercial species. This could involve Natural England making presentations on local marine biodiversity interests to local fishermen's groups;

- A commitment by Defra and the Statutory Nature Conservation Bodies (SNCBs) to proactively consider how existing and future fisheries can continue in MPAs, and to encourage industry initiatives to safeguard marine biodiversity - initiatives of the kind that we have seen in fisheries management to great effect (eg real-time closure agreements to protect cod and juvenile whitefish);

- A commitment to compensate those fishermen who lose fishing opportunities as a result of designation of MPAs, by financial assistance, training to diversify, and involvement in the management of MPAs, such as fisheries and environmental monitoring work.

Some of this trust-building has already started. For example, Seafish has seconded Nathan de Rozarieux (Seafood Cornwall) to Natural England to improve knowledge and awareness of the industry amongst marine staff. Seafish is regularly meeting and communicating with Natural England and Joint Nature Conservation Committee officers involved in both European Marine Site and Marine Conservation Zone work, and we have identified areas of collaboration to improve industry engagement and information flow.

Seafish is also communicating the key issues on the UK Marine Bill as it proceeds through its parliamentary stages to around 50 selected fishing industry representatives every week via email as well as producing facts sheets, a roadmap on Marine Bill & MPA work, and a website of general information for the industry at large.

We would welcome the opportunity to discuss these trust-building and communication activities and look forward to develop further initiatives to improve

stakeholder engagement with Defra, Natural England and Joint Nature Conservation Committee.

2. Flexible planning

The distribution of species and some habitats, such as biogenic reefs will change in response to rising sea temperatures and ocean acidification. The spatial and temporal nature of fishing constantly alters in response to many factors, including fishing regulations, markets for new species, new markets for existing species, development of new gear, and first sale value.

Versatility, in particular the ability to alternate between commercial species and different fishing methods, is key to the survival of the English inshore fishing fleet. Seafish is very concerned that a rigid marine spatial planning system could seriously disadvantage the fishing industry and we call for as much flexibility as possible in the siting and managing of MPAs.

Because only 15% of the UK seabed is adequately mapped, it is highly likely that we will not have a comprehensive map of the UK seabed by 2012, and therefore habitats and species that qualify for MPA designation will undoubtedly be discovered following the designation of MPAs. Alternative MPAs may therefore be beneficial for both marine biodiversity and fisheries interests.

Because we believe the designation and management of MPAs must be flexible to take account of future knowledge, we are pleased to note that a de-designation process exists (point 9. page 21) and hope that Seafish and the industry will be consulted and involved in the development of guidance on such de-designations.

We would like to see a presumption in favour of existing and future fishing and aquaculture activities that are compatible with MPA conservation objectives to ensure that the development of new fisheries and aquaculture is not unnecessarily constrained in MPAs. Such a system exists in the Australian Great Barrier Reef (GBR), where the emphasis is on providing a spectrum of zones with differing objectives, which then clarify what activities are appropriate in the zone. Also, there is also a special “catch-all” permit provision in the GBR Zoning Plan *(“any other purpose consistent with the objective of the zone…”)* that provides for permission to use new technology or activities that were not known when the Zoning Plan was approved but which are compatible with its conservation objectives (Day, 2008).

3. Multi-use MPAs

We welcome Defra's recognition of multi-use sites, particularly those assigned for non-marine conservation purposes, but which have a biodiversity spin-off.

p23: 'Proposals for MPAs are not incompatible with other uses of the marine environment. For example it is conceivable that wind energy production may have synergies with the conservation objectives of some MPAs'.

We wish to see more work done to identify existing and future sites designated for another activity that could prove beneficial for marine biodiversity. In addition to wind farm sites, the marine biodiversity protection afforded by areas dedicated for underwater turbines, MOD use and those areas currently closed, both permanently and temporarily, for fisheries management purposes should be considered against the MPA targets set for specific habitats and species. This would help minimise the cordoning off of new areas and the consequent negative impact on current and future fishing operations and aquaculture.

As experts in both seabed mapping and informing the fishing industry of seabed activities such as cable routes, oil and gas rig positions and wind farm sites, Seafish's Kingfisher Services would be able to map the types of marine usage described above in order to inform the MCZ project.

4. Socio-economic considerations

We are encouraged by Defra's commitment to take into account the socio-economic consequences of both MPA designation and management, which is necessary for Government to deliver its pledge to sustainable development as stated in the Sustainable Development Strategy published by all UK administrations in 2005.

We note that Defra will be setting up a National Stakeholder Advisory Group that will help to:

p32: 'ensure relevant social and economic data are made available to the regional MCZ projects…'

Defra's role and responsibilities include:

p39: 'securing sustainable long-term outcomes for marine biodiversity and ensuring the socio-economic impacts are understood and considered'.

We note with approval that both the Marine Management Organisation (MMO) and Inshore Fisheries Conservation Authorities (IFC Authorities) will be tasked with identifying and assessing the socio-economic implications of MCZ site selection and fisheries management decisions

However, socio-economic fishery assessments are notoriously difficult because data is not readily available; the assessments may depend on a number of scenarios driven by a variety of complex factors such as the ability to diversify; there are many onshore costs to consider; and problems arise from the spatial nature of fishing and the constant fluctuations in economic circumstances. To deal with some of these difficulties, below are some suggestions on how to ensure socio-economic information is comprehensive, accurate and respected. Note that the reliability of socio-economic information will very much depend on the involvement of industry.

A consistent approach
Several initiatives are currently underway to collect information from the fishing industry to inform the MCZ project, European Marine Site work and for the purposes of spatial planning. The key programmes are: Finding Sanctuary (SW England), Natural England's Regional MCZ work, CEFAS VMS project, SFC Observation mapping, FRS work, as well as some industry initiatives.

Uncoordinated or disjointed efforts to collect data will lead to costly and unnecessary duplication of effort and a missed opportunity to standardise approaches. To that end, Seafish has initiated a review of these current initiatives to help bring some cohesion to these efforts and to ensure that industry engages more positively. The review will take the form of a workshop hosted by Defra on the 28th July 2009 bringing together all relevant parties to discuss the following issues:

- Who is doing what and how are they doing it?
- What questions do we want to answer with this information?
- Are we missing opportunities to collect additional information?
- Can we agree a MOU whereby all parties share the data?
- Can we agree a common means of standardising methodology and data presentation?

Seafish regards this work area as a key part of its future activities and sees itself in the role of the 'custodian' of such data beyond 2011. At present the industry provides data, but it does not receive the benefit of having access to its own collected data to assist its decision-making processes and to enable it to engage in an evidence-based manner.

Of the above initiatives to collect information from the fishing industry, Finding Sanctuary (FS) is the most prominent and is a model that could be rolled out to the other MCZ regions (though our contacts with the fishing industry suggest that FS's approach may have some shortcomings either for reasons of perception of FS (as a 'green' focussed entity) or because of the substance of some of the approaches that FS has adopted). We therefore asked experts to peer review the published protocol 'Fishermap' in May 2009. The purpose of the peer review was

not to undermine the current efforts of FS, but to determine whether the FS approach was robust and whether there were any shortcomings. The three experts identified both positive and negative attributes, suggesting how the approach could be improved. The results of the peer review will be discussed at the workshop Seafish are organising with support from Defra on the 28th July 2009.

A true reflection
Calculating the true value of fish caught at sea is complicated as there are indirect costs to consider, such as onshore processing and auxiliary services. Seafish has initiated an internal project to develop a model to estimate the socio-economic value of fishing activities. An advisory group will comprise Government agency representatives and academics and the project will run parallel with the work described above.

Continual monitoring
Given that the spatial and temporal nature of UK fishing can change frequently, for the reasons outlined above, then the corresponding spatial change in socio-economic value needs to be monitored. Up-to-date information will be required by the MMO and IFCAs for accurate assessments, management and licensing decisions.

5. Conservation objectives

The management of activities within and close by an MPA will be driven by the site's conservation objectives. We assume that the conservation objectives for MCZs will be similar to those set for current European marine sites. That is, the nature conservation aspirations for a site will be expressed in terms of the desired conservation status (i.e. favourable) for each feature for which a site is designated.

These conservation objectives must be clear, measurable and reasonable for the reasons outlined below:

Objectives must be clear
The strategy describes incidental MPA benefits for fisheries, claiming:

p27: When fish and other invertebrates grow larger they produce more offspring, so MPAs are likely to lead to an increase in populations of these species.

As stated in the strategy, this will depend on a number of factors including the location and size of an MPA, so in itself, this assertion can be misleading and blur the true intention of MPAs risking confusion amongst stakeholders, difficulties in assessing the status of MPAs, and ultimately the success of MPAs. We therefore believe that the key objectives for MPAs should not incorporate uncertain outcomes, but acknowledge from the onset that, for example, the

protection of an area deemed to be an important spawning and / or nursery area for commercial shellfish and / or finfish species, may not necessarily lead to an increase in population size. Unlike tropical waters where finfish tend to be more territorial, most commercial finfish targeted by UK fishermen in temperate waters are highly mobile. So MPAs covering spawning and nursery areas, whilst a good thing, would not necessarily increase the spawning stock biomass. A recent study by Polunin 2009 found no effect of protection (*through an MPA)* on finfish abundance off the Yorkshire coast.

There was no evidence in any of the studies reported in a special issue of the ICES Journal of Marine Science in 2009 that reported on a European Symposium on Marine Protected Areas as a Tool for Fisheries Management and Ecosystem Conservation (Vol 66, No. 1, January 2009) to demonstrate that MPAs benefited finfish populations in temperate waters. Similarly, the authors of a Defra study on MPAs for management of temperate North Atlantic fisheries in 2005 concluded '*evidence for benefits to temperate finfish inside MPAs is inconsistent*' and '*in no case examined has spill over compensated for loss of fishing area*' (Sweeting & Polunin 2005).

Even for more sessile species such as scallops there is evidence to suggest that protection through MPAs can lead to mass mortality of old cohorts. For example, a study of the scallop population in an MPA near Georges Bank found that scallop density had declined by 50% (in a 500km2 area) between 2004 & 2005 following the closure of the area in 1994, and that the scallops that perished were large and probably old, as 80% had shell heights greater than 130mm (Stokesbury 2007).

A statement that was recorded in a 2005 study of fishing industry perspectives on the issues raised by no-take marine protected area proposals in South West England makes the point forcefully: 'having primary biodiversity objectives would be the most practical, clear and honest approach. Whilst they might have coincidental fisheries benefits, they should not be sold on this basis as the potential benefits are too uncertain, as fishermen know well, so whilst win-win is a nice deal, I do not think it is appropriate in reality' (Jones 2008).

Objectives must be measurable
Conservation objectives must be measurable to be able to determine whether favourable conservation status is being achieved. Global environmental influence such as rising sea temperature may, for example, prevent a site feature attaining Favourable Conservation Status (FCS) and we need to be able to identify whether this is the case or not.

Objectives must be reasonable
The nature conservation aspirations for a site which will determine a site's FCS, need to be reasonable and take account of past economic activity. There needs to be clear benchmarks and reference points to describe the desired status of

MPAs. For example, will the favoured population size of a particular species or extent of a habitat be set at levels known to have occurred before the industrial revolution? Or after the second world war? It must be remembered that marine ecosystems may have been fundamentally altered in structure by fishing, making a return to pre-closure conditions impossible (Sweeting & Polunin 2005).

The fishing industry has experienced inadequate advice and management within European marine sites as a result of unreasonable conservation objectives. For example, designated as features of the Wash SAC and SPA, the conservation objectives first set for cockles and mussels were unrealistic. Pressure from the local fisheries management body (Eastern Sea Fisheries Committee) and local fishermen led to a series of workshops with Natural England to re-evaluate the conservation objectives and determine how best to manage both stocks. The management policy took several years to agree (but it was agreed!).

A 2005 report of a Wildlife and Countryside Link workshop (supported by NGOs such as RSPB, WWF-UK and The Wildlife Trusts) stated, with respect to the UK, that *'There remains some uncertainty, for example, as to the reference point for defining favourable conservation status and hence a baseline against which to identify and monitor areas in need of restoration and recovery'.*

The lessons learnt from the Wash and other European marine sites are that conservation objectives and site management plans need to be developed with stakeholders to stand the best chance of being accepted and ensure they reflect what is happening on the ground. Fishermen are best placed to observe seasonal and annual trends in the distribution, size and behaviour of habitats and species of conservation interest. Seafish could help facilitate such discussion and collaboration.

6. Site management

Many fishery and aquaculture management decisions in European marine sites over the past five years have ended acrimoniously and led to fishing and aquaculture restrictions, including unacceptable delays and sometimes refusal to grant aquaculture authorizations, and Prohibition Orders on capture fisheries that have discouraged the fishermen from taking any further part in biodiversity protection, probably for many years to come. As mentioned under Stakeholder Engagement, support and compliance from the fishing industry is critical for the success of UK MPA policy

Demonstrating proportionate use of the precautionary principle, adopting adaptive management techniques, taking account of vessel displacement, and considering how best to mitigate the impact of MPAs on current fishing activities, could improve the current level of support and involvement from fishermen. These four are described in more detail below:

Proportionate use of the Precautionary Principle
Advice from the European Court of Justice (C-127/02, September 2004) has provided a very precautionary interpretation of Article 6 of the EC Habitat's Directive, for example on deciding when an Appropriate Assessment is required and the level of certainty required before permitting certain activities following appropriate assessment.

The precautionary intent of the Habitats Directive was examined in a review of authoritative decisions of development in European sites which found that '*Secretaries of State … have concluded very small scale losses, substantially less than 1%, would be an adverse effect on integrity; or at least they could not ascertain that there would be no adverse effect on integrity*' (Hoskin and Tyldesley 2006). The review documents the Port of Hull Quay development which was thought to affect only 0.01% of a European site, yet it was concluded there would be an adverse effect on site integrity. Such an extreme interpretation of the precautionary principle seems unreasonable.

The need to demonstrate 'certainty' that there will be no adverse effect on the integrity of a site, and 'no reasonable scientific doubt' of adverse effect, means that fishery and aquaculture authorities must be 'convinced' that there will not be an adverse effect, and that where any doubt remains as to the absence of adverse effects, the activity must not be authorised. But providing certainty of no adverse effect (proving a negative) can be extremely onerous and even impossible given our current understanding of the marine environment. It has led to obscure concerns being raised by SNCBs in EMS which the fishing industry have sometimes found (a) too difficult to answer owing to a lack of information on site features and on the potential impacts, or (b) to have incurred disproportionate time and cost, and as a result has led to good proposals being abandoned.

A 2006 survey of fishing and aquaculture activities subject to environmental Appropriate Assessments in UK European marine sites found 75% of existing fishing and cultivation activities were restricted and 87.5% of proposed activities were restricted or prevented (Lake 2006). A 2007 survey of shellfish farm environmental impact assessments in UK European marine sites (Appropriate Assessments) and SSSIs (for SSSI consent) found environmental information shortfalls incurred time delays of over 2 years for 60% of shellfish farm proposals and delays exceeded 4 years in 20% of cases (Woolmer 2007). Such environmental concerns have included the impact of oyster farming on local freshwater pearl mussel populations - owing to the possible disturbance to salmonids migrating back to their spawning streams and ospreys and an assessment that to date has taken eight years and has still not been concluded for a mussel farm in the industrialised area of the Milford Haven.

We hope management of MCZs will be not be hampered by such extreme precaution and draconian regulation, but will ensure that environmental concerns

are based on sound judgement and bear scientific or expert scrutiny, adopting a more proportionate use of the precautionary principle based on internationally recognised management techniques such as adaptive management.

Adaptive management
Given the dynamic and resilient nature of the marine environment, an adaptive approach to managing fisheries and shellfish cultivation, for example agreeing monitoring programs and allowing experimental fisheries under strict guidelines, would be a more reasonable way of interpreting the precautionary principle. At present we do not have (and we may never have) a complete understanding of the marine environment - how it functions and how it copes with anthropogenic effects. Preventing sustainable fisheries and shellfish cultivation in European sites on grounds of less than perfect knowledge, contravenes European and UK Government policies on sustainable development, which is a concept that accepts the need for reasonable trade-offs between environmental and economic goods.

Vessel displacement
Displacing fishing activity from MPAs could negate the ecological benefits afforded by an MPA network. The effects of fishing pressure displacement can be assessed by combining (i) information on habitat distribution; (ii) predicted change in the spatial distribution of effort following management action; and (iii) predicted impact of fishing on habitat (Jennings 2008).

Jennings (2008) reported on modelling work to assess the effect of MPA designs on biomass, production and species richness of benthic communities at the scale of the management region (which included MPAs and unprotected areas) undertaken by Hiddink *et al* (2006), which demonstrated that '*MPA closures of different sizes and in different locations could have positive or negative effects on the aggregate state of benthic communities*'. In the absence of fishing effort control, Hiddink predicted that the use of MPAs in lightly fished areas would lead to the largest increases in biomass, production and species richness.

The potential consequences of fishing effort displacement highlights the need for a holistic consideration of the benefits and ramifications of MPA designation and management in regional management systems, such as the one proposed in the MCZ project. MPAs that meet local management objectives may not contribute to meeting objectives set at a regional scale (Jennings 2008).

Fishermen's response to fishing effort restrictions in MPAs and knowledge of fishing intensity in a management region are two critical areas of information that can be provided by the fishing industry. Seafish, as part of the 'Fisher knowledge mapping' project described above, aims to help gather such information with other parties to inform the MCZ and other marine spatial planning work.

Mitigation measures
We are encouraged by Defra's commitment to minimise the socio-economic impact of MPAs and consider mitigation measures:

P25: 'We intend to meet our conservation objectives in ways in which, where possible minimise socio economic impacts'

And

'that these impacts can be appropriately taken into account, for example in possible mitigation and management measures.'

We believe, where there is good reason to restrict or even curtail current fishing activities following adequate consideration of the socio-economic and wider ecological impacts of doing so, Government assistance in helping fishermen to diversify, and in using fishermen and their vessels for surveying and monitoring sites, should be encouraged.

Diversification is often presented as a viable alternative when an existing fishery is being challenged in an MPA. The ability of fishermen (in terms of skill and cost), the capability of vessels, marketing opportunities and regulations are just some of the issues facing those considering diversification. Government assistance in shouldering the financial burden of training and guidance on how to deal with novel forms of fishing and aquaculture, such as offshore mussel farms [2] would make diversification a real option.

Using fishermen and their fishing vessels to collect environmental information in UK MPAs is becoming increasingly popular. Fishermen are working with Natural England to monitor the effects of a no-take zone off Flamborough Head, and Seafish has developed guidelines with the SNCBs on how industry can collect environmental information to inform environmental assessments, particularly in European marine sites where an absence of data can cause delays (as described above).

The Seafish 'environmental data gathering' guidelines were successfully trialled with industry during 2008, informing current proposals for shellfish farm development and management plans for mobile gear fisheries, and are now used by industry and encouraged by the sea fisheries committees. The guidelines are part of the 'Environmental Toolkit' that Seafish has developed for industry. For more information go to: http://www.seafish.org/b2b/subject.asp?p=326

Using fishermen in MPAs surveys and monitoring work will ultimately save

[2] NB Such a novel form is contained in a proposal for Lyme Bay which has been subject to an unacceptable delay due to the inability of the Marine and Fisheries Agency and Natural England to decide whether it should be subject to an 'Environmental Impact Assessment' and remains unresolved.

money by avoiding high vessel chartering costs and photography, and drop-down video techniques assures data quality. It would also help to instill a sense of ownership and responsibility.

Conclusion

Fishermen will be an integral part of both MPA designation and management. Meaningful engagement and information flow is imperative to the success of MPA policy and objectives. Seafish is currently helping industry to collaborate with MPA work, but in order to ensure that marine biodiversity receives the best level of protection, the fishing communities and fishermen themselves have to be committed to the cause.

Winning the hearts and minds of fishermen will take time, but by nurturing industry's green endeavours and avoiding acrimonious fishing / NCA disputes that have tarnished relations and led to disillusionment and distrust, then our task of delivering the Government's vision for the marine environment of a 'Clean, safe, healthy, productive and biologically diverse oceans and seas' will be made easier.

We hope that these comments are useful and we look forward to continuing working with Defra, Natural England other Government agencies on MPA policy, designation and management, and helping the industry engage and support this unprecedented plan to protect marine biodiversity. Should you have any questions please do not hesitate to contact either Phil MacMullen or Mark Gray.

Yours sincerely

Mark Gray

(Environmental Assessment Support Officer)

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