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Dr Will Wright
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Dear Will,

Many thanks for the opportunity on 16.11.15 to hear your joint working with Natural England on tests of Likely Significance with regard to Kent and Essex sites.

We have some major overarching concerns:

1. That you will not regulate against current fishing that is currently listed as 'Does Not Operate' where there is likely to be a significant effect if those activities were to operate.
2. There is an assumption amongst your officers (and perhaps NE) that there is currently no LSE over cockle fishing, clam, mussel and oyster dredging to the integrity of site(s). I see no proof of this from the meeting we had. Please could you point me to some effort data that is linked to some scientific evidence of the amount of pump scoop / suction (and other) dredging that shows this has no LSE. At the very least, please could you send me copies of the appropriate assessments for the TECFO to show that the amount of catch is sustainable for bird populations. There is an assumption that the TECFO covers the requirements of the SAC. You're assistant chief mentioned that the cockle habitat contains little other biodiversity of note. Can you provide evidence of this (reports or scientific papers from your area).
3. There remains (an apparent 'typo' as described by Vicky Foster) for the impact of dredging for mussels, clams, oysters over eelgrass for (I recall) the Benfleet site. This is clearly erroneous and needs correcting.

With regard to your request of eNGO considerations of the Appropriate Assessment of trawling on Essex estuaries over mud and 'blank' features, we recommend a full closure for the following reasons:

- i. The Directive requires precautionary measures where there is an absence of evidence of causal impact from activity on feature, and species associated with the feature. Much of the NE habitat map is unfortunately 'blank'. As features here are likely to be muddy sand, sandy mud, gravel or cobbles, then these would be vulnerable subfeatures of sandbanks, and therefore must also be protected as they will host vulnerable species, or life-stages of species associated with a healthy site.
- ii. The MSFD calls for Good Environmental Status – for fish and the entire wider marine ecosystem. If we don't have 'benchmark / reference' areas for this within MPAs, then we can't consider the relative implications of management in wider seas. Full implementation of the habitats directives by getting sites to Favourable Conservation Status is necessary to achieve part of the MSFD.
- iii. Fishing with such gears often leads to by-catch of many non-target, over quota or vulnerable species. Many demersal and benthic invertebrate species are also left dead or damaged on the seabed, and therefore not identified by fishers in their nets or otter door tracks. The indiscriminate nature of trawling is likely to have an effect on the natural balance of species in the food chain, and the structure and function of benthic species. Braeckman *et al* (2014)¹ described the implications of towed gears damaging soft-bottom North Sea communities having a profound negative effect of the four types of 'ecosystem engineers' – including burrowing bivalves, *Sabellaria*, *Lanice* beds, and burrowing brittlestars. All these animals play a role in introducing oxygen into the upper layer of muddy sands and gravels, recycling surficial nutrients (that could otherwise lead to eutrophication), and habitat stabilization (of sediments). They also act as a food source for fish and other mobile animals (e.g. *Sabellaria*) worms for dab and sole (Pearce *et al* 2013)².
- iv. The (apparent / assumed) 'low' effort of trawling can have profound impacts on benthic life forms. A single trawl every 2-3 years could damage or suppress the establishment of primary and secondary colonisers that then facilitate³ attachment / succession of a suite of other species. For example, oyster and mussel reefs are important as filter feeders, for nutrient recycling and habitat stabilization, also as a direct food source for other species. They act as an important solid structure for the attachment of bryozoans, algae, hydroids, corals, other bivalves, crustaceans, echinoderms, tube worms etc⁴. By allowing trawling in areas where there is the potential for growth of these habitats, we

¹ Braeckman *et al* (2014), protecting the commons: the use of subtidal ecosystem engineers in marine management. *Aq Cons. Mar and Freshwater ecosystems*. <http://tinyurl.com/pz853ka>

² Pearce *et al* (2013). *Sabellaria spinulosa* reef ecology and ecosystem services. Crown Estates. <http://tinyurl.com/nba3y5k>

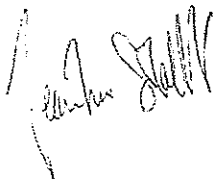
³ This is classic ecological science – described in Connell (1977) as 'the facilitation' model of succession.

⁴ Just look at your own video of the oyster / slipper limpet habitat and associated biodiversity.

- don't recover the seabed, and won't achieve another (potential) 'favourable conservation status' state. Therefore, MCS doesn't agree with the (scoping document) assumption by NE that trawling 'doesn't prevent change to another habitat'. Managing *out* trawling can lead to the development of such habitats.
- v. Site integrity research by University of Plymouth, ClientEarth and MCS (Rees *et al*, 2013)⁵ has revealed that the species associated with features within sites must also be at, *or recovered to* favourable conservation status. Fish are associated with the muddy sands, gravels and cobble habitats associated with the Essex estuaries site. Their populations are directly threatened by fishing. The measures (closures to trawling) that allow their populations to be at or near favourable conservation status within the site should allow for a good population to build within the site. Cessation of towed fishing will provide healthy habitat for the fish populations, possible spawning grounds (herring for example on gravel beds in the eastern gravel 'blank' areas of the site).

For the multitude of reasons outlined above, MCS believes that the closure of the site to trawling, coupled with a more certain understanding of the effect of areas of current oyster, mussel, clam and cockle suction, trawling and dredging needs to be better understood in the light of achieving a different *potential* ecological state. Closures of such activities allow potentially richer habitats to be achieved. Much of the current thinking of the IFCA is to allow ongoing activities where it is *assumed* they aren't deleterious to Favourable Conservation Status. However, knowledge of specific impacts is very poor. Vicky Foster made a very indicative point, calling for the measures to be introduced under the amber process to 'prevent deterioration' of sites at the beginning of the meeting (16/11/15). The assumption related to this observation is that the sites in Kent and Essex are therefore already at Favourable Conservation Status. Given current uncertainties, we aren't convinced at all that this is the case.

Yours sincerely,



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⁵ Rees, S. E., Sheehan, E. V., Jackson, E. L., Gall, S. C., Cousens, S. L., Solandt, J.-L., Boyer, M. and Attrill, M. J. (2013) A legal and ecological perspective of 'site integrity' to inform policy development and management of Special Areas of Conservation In Europe *Marine Pollution Bulletin* 72 14-21

