



**National Oceanography
Centre, Southampton**
UNIVERSITY OF SOUTHAMPTON AND
NATURAL ENVIRONMENT RESEARCH COUNCIL

**Consultation on measures to protect marine biodiversity in Lyme bay from
the impact of fishing with dredges and other towed gear.
December 2007**

1. This response has been prepared by the National Oceanography Centre, Southampton (NOCS) UK. *See Annex 1 - About NOCS.*
2. As one of the UK's leading national marine science and technology institutes our broad concerns relate primarily to the importance of ensuring that sound science is used in the formation of marine policies.
3. We appreciate that Defra has already gathered supporting evidence and data in order to make a series of proposals intended to protect the marine biodiversity in Lyme Bay, and that the area is also of economic importance to a long-established local fishing industry.
4. Our comments are listed below each of the following paragraphs taken from the Defra consultation letter:

The Options in the Paper are:

OPTION A: continue to rely on the areas of protection agreed last year in which towed gear is excluded. This would be either through the existing voluntary agreement amongst members of SWISA not to fish in the designated areas or by the introduction of a byelaw or Order banning the use of towed gear in these closed areas.

NOCS comment: Option A, properly enforced and with sufficient penalties to ensure compliance, will provide oases from ongoing damage for the mudstone habitat and its associated fauna and flora. It may well even provide a source of scallops that will seed the surrounding area open to scallop fishing by providing the filamentous settlement surfaces required by scallop larvae as their first attachment site. This will only happen IF sufficient larvae are available in the waters of Lyme Bay, something that will be related to the efficiency of the fishing effort elsewhere in Lyme Bay and contributing waters. Option A will not lead to the areas closed to dredge fishing holding broodstock scallops in greater numbers than in the surrounding areas as the scallop resource will be fished by professional scallop divers. It is also quite likely that the density of pot fishing will increase in these areas as there will be a reduction (if enforcement sufficiently efficient) in the problem of scallop

dredges entangling with pots or nets. This may require additional management to ensure sustainability.

Option A will provide protected habitat and so support Pink Sea fan communities ONLY if effective enforcement is applied. Given the small areas involved (12 sq miles vs 60 sq miles of reef area) the penalties for fishing in the area with scallop dredges would have to be as high as possible and the chances of being caught almost certain. The use of existing satellite technology (used in 15m and above fleet) should be extended to all boats fishing in the district so that the possibility of detection when fishing in the option A areas would be greatly enhanced. This would also focus fishery patrol boat effort as they could target boats that were not 'showing up' on the satellite system. As a constructive side effect the mandatory use of satellite monitoring equipment would also assist in resolving static versus mobile gear disputes. These occur where dredges are towed into static gear, leading to loss/damage of the static gear (and potentially increasing the ghost fishing by the abandoned pots/nets), costing the static gear fishermen a lot of money (e.g. the cost of a lobster/crab pot is about £30 and they may be fished in strings of 20+). Currently, unless the incident is witnessed, the static gear fishermen may choose not to report the incident and so avoid the financial penalty of compensating the static gear fisherman. This type of behaviour has already, anecdotally, caused one pot fishermen working in Lyme Bay to stop fishing as his gear losses made his fishing operation uneconomic.

Option A will, if the scallop fishery is continued, lead to a long term (10-20 years?) degradation in the physical mudstone reef habitat in the rest of Lyme Bay that will be irreversible. Undoubtedly the marine life that utilizes the mudstone habitat will adjust to the physical disturbance but in the long term it is to be expected that the crab and lobster fishery, (the exponents of which are much more locally based than most of the scallop fishers) will decline as the niche size and physical habitat diversity required by lobsters and crabs decreases because of the physical damage caused by the scallop fishery.

OPTION B: exclude the use of all towed gear, by either SFC Byelaw or Order, in the closed areas proposed by NE in August 2006. This would protect an area of 25 square miles of reef habitat in three discrete blocks, essentially bringing the current voluntary closed areas closer to the coast.

NOCS comment: Option B made more sense when the extent of the reef was unknown. Today surveys have improved knowledge of the area, rendering option B obsolete.

OPTION C: exclude the use of all towed gear, by either SFC Byelaw or Order, in the closed areas in the 60 square mile area originally proposed by NE in May 2006.

NOCS comment: Option C is preferred over option A from a conservation and biodiversity protection point of view because the mud stone reef habitat that is the central core in the biodiversity value of Lyme Bay will not be degraded. This means that the marine community will be maintained (all other things being equal) and the static gear fisheries in the area will have a long term future. The fisheries implications of excluding scallop dredgers from the 60 square miles will be that the static gear fishery will probably increase (reduction in gear conflict will be a powerful inducement) and professional scallop divers will probably increase their activity, both of which may require further management measures to ensure sustainable exploitation. It is possible that the proliferation of suitable 1st settlement substrata for scallops (promoted by absence of dredge damage) will lead to an increase of small scallops into the seabed area bordering option A but this is very speculative. Scallopers based locally in West Bay will be the most affected dredging boats, their livelihood will effectively be removed, but those from other ports will change their fishing patterns, as they did following the completion of the Harbour at West Bay; part of the set of circumstances which allowed the Lyme Bay scallop resource to become economically and logistically viable. Scalping is typically a nomadic occupation, exploiting a resource whilst economically viable and then returning when the stocks have 'recovered'; something seen in Lyme Bay at present, only a few boats are currently fishing in the Bay. It is the location of the redirected fishing effort that is of major concern. Whilst Lyme Bay is considered by many conservation interests to be a 'Jewel in the Crown' of south coast habitats, it is not the only area of conservation value along the coast and even exploratory scallop dredging in some of these other environments would have detrimental short term effects on the conservation value of areas, and should 'recovered' stocks be found, long term impacts on the physical environment of the area which could degrade the marine communities. Consideration could therefore be given to extending the current prohibition on scalping within 3 nM of the coast in the Sussex Sea Fisheries District throughout the Southern Sea Fisheries District or at least along the shores of Dorset to prevent environmental damage in areas of conservation importance outside of Lyme Bay.

A Ministerial Stop Order would be required for this option C to work effectively as the process of creating a bylaw is, generally something that takes months to years, and the intervening period could become a free-for-all during which great damage could be done to the sea floor, removing the very species that the bylaw is intended to protect. The comments made about enforcement of Option A are just as relevant to option C.

General comment:

NOCS considers option C to be preferable to option A because it provides for long term habitat protection, the core of Lyme Bay biodiversity and therefore its existing, long term (60+ years) fishery. However, whatever option is

selected by the minister, it must be 100% enforceable and there should be no delay period between announcing the result of the consultation and enacting the regulations. A ministerial order is needed to achieve this. There are few enforcement resources available to cover a relatively large area of the South Coast. Unless satellite tracking, coupled with policing from sea or shore is used it is unlikely that enforcement will be sufficiently vigorous to prevent unauthorised fishing. Pragmatically this would be less of an issue with option C than A but is still not acceptable. Voluntary areas have worked well to date, because the fishing community understood that if voluntary controls failed, compulsory measures – which the community dislikes – would be imposed. The new regulations need to be enforceable and penalties for breaking the regulations large enough (in relation to the financial reward of the fishery) to act as a deterrent to prevent unauthorized fishing.

The Southern or Devon Sea Fishery Committee patrol boats are NOT able to be on location in Lyme Bay twenty four hours a day, 365 days per year. The system used to control location of fishing effort must be one that the fishermen and fishery officers will accept as being fair and reliable, because if it is possible to evade controls, it is certain that they will be. It also needs to be cost effective; Sea Fishery Committees are local government funded. Satellite tracking devices are proven in fishery management and it is understood cost £300-£400 per unit, a level that should be affordable to users. Vessels can be tracked in real time from shore or enforcement craft and cross-checked against track records. Mandatory use of such devices would appear to be a time and cost efficient enforcement option.

5. In this section we answer the specific questions asked in the Defra letter:

Is it necessary to protect all known pink sea fan colonies within Lyme Bay or is it acceptable to continue to protect only the majority of the known locations?

- **NOCS comment:** Biologically it is not necessary to protect all known colonies within Lyme Bay for the continuation of the species in the area but to focus on a single species is myopic; the biggest issue is the destruction of the sea bed habitat by scallop dredges. The mud stone reefs are the basis for the conservation and existing fishery value of the area, pink sea fans are part of the result of the habitat being relatively undamaged for such a long period prior to the recent expansion in scallop fishing.

How important is other biodiversity within the Bay in relation to the total UK situation and should we be looking to protect it?

- **NOCS comment:** The other biodiversity within the Bay is important and we should be looking to protect it. The Lyme Bay system operates as a whole and reduction in the physical habitat will undoubtedly lead to a change in the marine community. If the damage is sufficient and sustained (mudstone reefs don't 'recover' they stay damaged) then biodiversity will decline. Given that it appears that this area will be a candidate SAC in the near future a holistic and protective approach to Lyme Bay would seem appropriate.

What is the value of dredging and towing derived from Lyme Bay, how would the various options effect them?

- No comments for this question

What is the value of potting and other static gear fisheries in Lyme Bay, how would the various options affect this?

- No comments for this section

How many scallop divers operate in Lyme Bay and what is the value of their output?

- No comments for this section

How many recreational divers operate in Lyme Bay, what is the value of their output and how does scallop dredging impact that value?

NOCS comment: We do not know the numbers, or the value of their output, but anecdotal evidence suggests that recreational divers visit throughout the year, particularly in the summer months, and that it is common for divers to collect a small (<6) number of scallops during their visit. Collectively this may add up to enough of a catch to be significant. Divers that choose to dive on the mud stone reefs are making this choice because they want to see marine life. They will just go somewhere else if the biota on the reefs becomes less attractive than other areas along the south coast.

How many recreational divers operate in Lyme Bay, what numbers of scallops do they take and what do they do with them- sell or use for own consumption?

- No comments for this section

ANNEX 1 About NOCS

1. The National Oceanography Centre, Southampton NOCS is one of the world's leading institutions devoted to research, teaching and technology development in ocean and earth sciences. Over 500 scientists, lecturing, support and seagoing staff are engaged at this purpose built waterfront campus in Southampton, along with over 700 undergraduate and postgraduate students.
2. The National Oceanography Centre, Southampton is a collaborative Centre owned by the *Natural Environment Research Council (NERC)* and the *University of Southampton*. NOCS was established as the national focus for oceanography in the UK, with a remit to achieve scientific excellence in its own right as one of the world's top five oceanographic research institutions.
3. NOCS delivers a diverse mission, which ranges from managing the NERC multi-purpose research vessel fleet and other major facilities, to programmes of strategic research for NERC, and academic research and education in ocean and earth sciences in support of the University's mission. NOCS activities also encompass major ocean technology development, long-term observations, managing international science programmes, promoting enterprise and knowledge transfer, providing advice to Government, business and charities, and the engagement between science and society. Moreover, the Centre is also specifically charged with working with the wider science community to provide strategic leadership, coordination and facilitation for the whole of the UK marine and related earth sciences.
4. This response draws on the expertise of a number of staff at NOCS, for inquires in the first instance please contact Mr Steven Hall, National Marine Coordination Office, NMCO email sph@noc.soton.ac.uk.
5. Further information may be found on our website at www.noc.soton.ac.uk



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