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## Marine Policy

# Equity, justice and power issues raised by no-take marine protected area proposals

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### *Abstract*

In the face of growing calls for no-take marine protected areas (NTMPAs) and the development of a UK legal framework for them, fishing industry and related perspectives on the equity, justice and power issues raised by such designations are explored. Whilst these reveal growing concerns about the political and geographical marginalisation of the fishing industry, they also reveal a significant potential for the constructive participation of industry representatives in discussions and decisions concerning NTMPAs. These findings support the argument that this potential should be realised, as the environmental coherence of our seas need not be achieved through the social and economic isolation of our fishing industry.

Key words: Marine Protected Areas, Knowledge, Equity, Power, Social Justice, Environmental Justice

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## Introduction

There are growing debates as to whether networks of no-take marine protected areas (NTMPAs) should be designated to address inter-related concerns about declines in the ‘health’ and resilience of marine ecosystems, and in the abundance of marine fish stocks [1]. These debates revolve around issues such as whether NTMPAs are necessary to address the limitations of conventional fisheries management approaches, the potential positive (spillover/export, promoting resilience) and negative (effort displacement) wider impacts of NTMPAs and whether NTMPAs are needed to implement the ecosystem approach. Such issues are explored in a previous paper [2] on fishing industry and related perspectives on NTMPA proposals in south-west England<sup>1</sup>. NTMPAs also raise important issues in terms of equity, justice and power that are less prominent in such debates, and this paper assesses these issues by exploring the following inter-related themes:-

- fishing as a ‘way of life’
- role of NTMPA advocates
- who should be involved in decisions?
- role of different knowledges
- potential for local protectionism
- particular vulnerability of inshore fishermen
- social and environmental justice issues

The background is essentially the same as that for Jones [2] but since then a Marine Bill for England/Wales [3] has been published for passage through Parliament (along with parallel Bills in Scotland and Northern Ireland to provide a legal framework for the UK), which includes provisions to designate Marine Conservation Zones (MCZs) as a means of implementing the ecosystem approach. These are yet another variant on MPAs, which range in the degree of protection afforded to them from multiple-use to highly protected, the latter being considered in this paper as NTMPAs<sup>2</sup>. Prior to the Marine Bill, a Draft was considered through a public consultation and Parliamentary scrutiny by a Joint Committee of the House of Commons and the House of Lords. The Government Response includes a proposal “to confer a duty... to designate MCZs in order to contribute to an ecologically coherent network of sites which will include highly protected sites.”<sup>3</sup> Whilst the Marine Bill provides the powers and a duty to designate MCZs, it makes no reference to the level of protection that should be provided beyond that necessary to achieve the objectives of a given designation<sup>4</sup>, but it would appear likely that provisions and possibly even a duty to designate NTMPAs will be included in the Marine Act, therefore such designations are now even higher on the agenda. This is reflected by the launch of a campaign by a leading supermarket chain and the Marine Conservation Society, to coincide with the launch of the Marine Bill, for 30% of the UK’s seas to be designated as NTMPA by 2020<sup>5</sup>, i.e. MCZs that are highly protected, including the exclusion of all fishing activities. This and other NGO campaigns have stated that the Marine Bill will be considered a failure if the MCZ network does not include such a proportion of NTMPAs.

<sup>1</sup> Jones [2] explored NTMPA issues related to their objectives, uncertainty concerning their benefits, their role in implementing the precautionary principle and the ecosystem approach, the balance between them and the use of wider fisheries management approaches, and their enforceability.

<sup>2</sup> The government terms such designations ‘Highly Protected Marine Reserves’ (HPMRs). Para. 3.4.1, SSEFRA [4].

<sup>3</sup> *Ibid*

<sup>4</sup> Powers to designate MCZs – clause 113 of Marine Bill; grounds and requirement to specify objectives - clause 114; duty to create network – clause 117 <[services.parliament.uk/bills/2008-09/marineandcoastalaccess.html](http://services.parliament.uk/bills/2008-09/marineandcoastalaccess.html)>

<sup>5</sup> ‘Marine Reserves Now’ campaign <[www.marinereservesnow.org.uk](http://www.marinereservesnow.org.uk)>. Several similar NGO campaigns have also been launched, e.g. <[www.marinereserves.org.uk](http://www.marinereserves.org.uk)>, <[www.wildlifetrusts.org/index.php?section=marinebill](http://www.wildlifetrusts.org/index.php?section=marinebill)>, <[www.greenpeace.org.uk/oceans/solutions/marine-reserves/the-uk-marine-bill](http://www.greenpeace.org.uk/oceans/solutions/marine-reserves/the-uk-marine-bill)>.

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Given that the Government proposes designating MCZs “with the full involvement of stakeholders”<sup>6</sup>, the assessment of fishing industry and related perspectives on the issues raised by such NTMPA proposals, particularly those related to equity, justice and power, is an important areas of research. Blount and Pitchon [5] note that ethnographic research on the equity issues raised by MPAs is marginalised by the dominance of biology, ecology and economics in this field. Equity issues are, however, central to the reactions of fishers to MPA proposals and designations and therefore research on such issues should be priority. This paper aims to contribute to this neglected but important area of research by addressing the above listed themes in relation to the perspectives of fishermen and related stakeholders in south-west England on the equity, justice and power issues raised by NTMPA proposals.

The methods are also the same as for Jones [2] as this paper is based on the same qualitative data derived from 51 semi-structured interviews with 57 fishermen and related stakeholders (representatives, regulators, quota managers, etc) in south-west England in 2005. The percentage of interviewees figures refer to the total of all interviewees or the proportion that discussed a given issue, as specified, as is the actual number of interviewees. These figures are indicative rather than being statistically representative.

### **Fishing as a ‘way of life’**

Blount and Pitchon [5] report that fishers are often more committed to fishing as a ‘way of life’ rather than on the basis of economic rationalism, and therefore often view equity issues in terms of the effects of proposals and policies on their way of life rather than purely in terms of the distribution of costs and benefits. A total of 15 (out of 57) interviewees discussed issues related to this argument, stressing the cultural implications of excluding fishermen from certain areas: *fishing is our way of life and our way of earning a living - it’s not just about money*. This was a common theme running through these discussions, many also stressing that fishing communities dominated many areas: *it’s not just the loss of an individual business if a fisherman leaves the industry, it’s the loss of the fishing culture, on which whole villages are dependent*. Several also pointed out, in a related sense, that fishing ports and communities are an important attraction for tourists, but the main point that came across from these discussions was that the economic returns do not reflect the difficulties and risks of fishing, the main attraction of fishing being that it is a preferred way of life: *fishing is important as a way of life and part of our cultural heritage, so economic compensation would not address this loss*. A recent editorial in the UK fishing industry’s newspaper reinforces these views in stating that *fishing is more than just a job. It is also a heritage, a cultural tradition and way of life that supports many communities with little other means of support*<sup>7</sup>. These views are consistent with the views reported by Blount and Pitchon [5] and highlight that assessing the impacts of NTMPAs in purely ecological and economic terms neglects a key element of the perceived impacts in terms of the cultural importance of fishing as a way of life.

### **Role of NTMPA advocates**

Many NGOs (non-governmental organisations) are running campaigns for NTMPAs in relation to the Marine Bill (see footnote 5). Accepting the importance of fishing as a way of life, many interviewees resented interference with it by people who do not share it, particularly such NGO campaigners and related scientific advocates. In keeping with arguments that the distinction between campaigners arguing for NTMPAs on a subjective basis influenced by values and scientists arguing for them on an objectives basis drawing on scientific evidence is becoming increasingly blurred [6], the interviewees did not distinguish between campaigners and scientists in this respect. Of the 42 interviewees who discussed the role of advocates, 76% (32) were very critical of them on grounds such as that they do not understand the complexities of the seas and of fishing, that they are motivated by ‘deep green’ ethics coupled with

<sup>6</sup> Para. 3.4.2, SSEFRA [4]

<sup>7</sup> *Fishing New*, 7 November 2008 - Comment. [www.fishingnews.co.uk](http://www.fishingnews.co.uk)

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professional ambitions to have an impact, and that they do not care about the potential effects of their campaigns on people employed in fishing and related industries. If NTMPAs are eventually accepted as a 'win-win' solution that will benefit both fish stock and marine biodiversity conservation, many of these criticisms of the role of advocates may be called into question, but it is debatable whether NTMPAs represent win-win solutions and whether they should be advocated on this basis [1].

Whilst 24% (10) of the interviewees indicated that they accept the role of NTMPA advocates, for reasons such as that they respect that people have different perspectives or that they were amongst the 23% of interviewees that supported NTMPAs [2], the majority of interviewees that discussed this were critical of the role of such advocates. This, again, is consistent with the views reported in the industry's newspaper, articles in which regularly express lament and frustration at the increasing influence of the 'insatiable' green lobby<sup>8</sup>. Many interviewees expressed a fear that this lobby will increasingly dominate the policy agenda, leading to the demise of the fishing industry through the increasing designation of NTMPAs and other 'precautionary' [2] restrictions, but some stressed the need to counter the green lobby's arguments by having good advocates for the fishing industry, recognising that this was an approach that the industry had so far neglected: *'the public need converting and this is work the fishing industry should be focused on'*. One argued that the only way to counter the green lobby was to work with it rather than try to fight and stop it, and whilst this is consistent with the views of other industry representatives [7], the majority of interviewees confined their views on NTMPA advocates to expressions of distrust, fear and frustration.

### Who should be involved in decisions?

There has been growing recognition of the need to provide for fishers and their representatives to have a greater role in decision-making and implementation processes, through fisheries co-management [8,9], whereby fishers and state regulators work on a partnership basis with the aim of sustainably exploiting fish stocks, and through MPA co-management, which has similar aims [10], but with a greater focus on biodiversity conservation. The question of what constitutes an appropriate balance of power in order to balance the achievement of wider-scale, strategic goals, such as those related to NTMPAs, with the fulfilment of more local priorities remains a critical but neglected area of research [6,10]. The views of fishers and their representatives as to what they considered their role in decisions might be were therefore explored.

Despite the growing recognition of the concept of co-management and the very high importance of fishing to fishers as a source of income and 'way of life', 38% (17) of the 45 interviewees that discussed issues related to their role in decision-making felt increasingly disempowered, due to factors such as the growing influence of NTMPA advocates, the political view that the fishing industry is expendable or must be drastically reduced in its capacity, and past experiences of restrictions being imposed on them, e.g. *'They ask us what we think about such proposals and we try and be helpful, but they just go away and do what they were going to do anyway regardless of our views, and we do get a bit fed up with such tokenistic consultation exercises... they treat us as if we are all like the minority of fishermen who are short-termists'*; *'We do fear that NTMPAs will be imposed on us as the political will to appease the greens is greater than the political will to sustain the fishing industry'*; *'Society and politicians do not care about fishermen so if NTMPAs are the final nail, so be it as far as they are concerned'*. These quotes reveal that many interviewees feel more marginalised rather than more included in decision-making, contrary to the growing dominance of the co-management narrative. This is due to a combination of factors, such as the increasing attention given to NTMPA advocates and the related extension of societal concern to our seas [2], and is consistent with arguments that traditional user groups can become marginalised through governance initiatives that increase the number of civil society actors involved in decision-making [11]. Several interviewees also discussed how the potential for participation and

<sup>8</sup> E.g. *Fishing News*, 6 April 2008 - Comment. [www.fishingnews.co.uk](http://www.fishingnews.co.uk)

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cooperation amongst fishers had been undermined by previous experiences of a very top-down approach being adopted, mainly through European Marine Sites in south-west England [10], but also in relation to the Whitsand Bay MPA proposal unsuccessfully pursued by a regional planning authority.

The interviewees were, however, symmetrically divided on this issue, 38% (17) recognising the need to provide for some constructive participation by industry representatives in NTMPA decision-making processes and being quite confident about the prospects in this respect: *'we would need to be at the table to ensure our important lanes are kept open and provide ideas based on our idea, and I think they might listen to us'*; *'if fishermen just keep on putting barriers up to related proposals they will just get left behind as these proposals are taken forward, but they need to be constructively involved.'* A related issue that was discussed by some interviewees was that of representation, recognising that a balance needs to be struck between keeping negotiations manageable in terms of the number of people involved whilst providing for all sectors of the industry to be represented. Several considered this to be a major challenge given the diversity of the industry, which should actually be considered as a quite a large number of separate industries amongst whom there were different priorities, if not conflicts, and that some fishers would always argue that their views and priorities had not been represented in discussions and decisions.

Some considered that the participants should be limited to a *'few sensible level-headed'* representatives, followed by consultations with all potentially affected fishers, whilst others considered that fishers *'would all have to be involved and it would be a complicated procedure, but it could and should be done. It would not work if you just consulted fishermen on NTMPA proposals through associations'*. Getting the balance right between these two perspectives will be a major challenge for NTMPA decision-making processes, recognising that protected area governance often raises such challenges, particularly where there are conflicts between strategic and local priorities [10] and that such challenges pervade many areas of democratic decision-making.

A minority of interviewees (5 – 11%), however, discussed the need for decisions concerning NTMPAs to be taken 'above' fishers and imposed on them: *'you will never get agreement amongst a committee of fishermen, as some will always object to being affected, and I accept that somebody from the government will have to take a decision. I have no problem with this, so long as it is done fairly'*; *'we need decision-making powers to be shared, so that fishermen are involved but some official body has to have the final say, otherwise fishermen will just argue amongst themselves and rarely reach decisions'*. One of these interviewees was specifically critical of the potential for success of the 'Finding Sanctuary' project<sup>9</sup>, which is aiming to develop a network of MPAs around south-west England working in partnership with fishers [2], stating that it will be necessary to initially impose them in order to convince the industry of their potential benefits. This is particularly significant given that the government has proposed a similar regional partnership approach to developing MPA networks throughout the UK, though the government also proposes that whilst 'early and full engagement in these regional projects will ensure that stakeholders... are able to help shape the recommended networks of site, Ministers will take the final decision on designating sites.'<sup>10</sup>

Many (31) interviewees discussed issues related to extending stakeholder participation to include 'citizens', as this is one of the potential provisions of the forthcoming Marine Bill [3], 52% (16) of them arguing that such wider participation should not be provided for. This was supported by a variety of arguments, such as that citizens do not understand the complexities of the seas and of fishing, what they do know being the result of misinformation from the green lobby, that citizens care more about protecting nature than they do about protecting the fishing industry, that citizens are represented through the

<sup>9</sup> [www.finding-sanctuary.org](http://www.finding-sanctuary.org)

<sup>10</sup> 3.79-3.80 of the Draft Marine Bill <[www.official-documents.gov.uk/document/cm73/7351/7351.pdf](http://www.official-documents.gov.uk/document/cm73/7351/7351.pdf)>

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government's and elected representatives' roles in decision-making, and that '*the seas are primarily for fishermen to use*' therefore citizen participation is not appropriate. Some interviewees observed that such participation was a clever means of further marginalising the fishing industry, in keeping with the discussions above [11]. Nearly half (48% - 15) of the interviewees, however, agreed that such citizen participation is appropriate, as the seas belong to society, not just to fishermen, though only three of these did not qualify this view, most citing factors such as those put forward by interviewees who did not support such citizen participation.

Overall, the interviewees were almost evenly divided, around half fearing that NTMPAs will be imposed on them and that they should have a greater role in such decisions rather than involving citizens and leaving decisions to the government, whilst around a half accepted that, whilst their participation should be provided for, it is right that citizens should also be involved, a minority arguing that there is a need for the government to take the final decision. This indicates that the potential for the cooperation of fishing industry and related interests in NTMPA decision-making processes is considerable, in that around half of the interviewees that discussed such issues accept the need for a pragmatic, balanced approach. It is important to note, however, that many interviewees essentially '*want participation in decisions that affect them and fair, equitable treatment, not compensation not to fish*', the issues related to equity and compensation being discussed in a later section.

Whether actual experiences with NTMPA designations increases or reduces this pragmatic proportion remains to be seen, several interviewees indicating that if the potential spillover/export benefits of NTMPAs for wider fisheries are realised [2], the potential for industry participation could be considerably increased. There is limited anecdotal evidence that such benefits have led to the support of fishers who previously opposed closure, e.g., Ballantine [12] and assessing the potential of such benefits to promote the participation and cooperation of fishers through such benefits should be a high research priority. Whilst it must also be recognised that few NTMPAs will have been specifically designed to deliver such benefits and it is highly debatable whether they should be [1], if such benefits increase the potential for the constructive participation and cooperation of fishers in reaching and implementing decisions concerning NTMPAs, this must be recognised as a key means of moving forward, especially given the potential for participation amongst fishers indicated by these findings.

### **Role of different knowledges**

The importance of combining the knowledge of fishers with that of scientists to inform management decisions is widely recognised [13,14] and, predictably, all of the 27 interviewees that discussed this agreed that their knowledge should be used more, as *there is no better knowledge than a working knowledge*. Of these, a majority (78% - 21) discussed the need to combine the knowledge of fishers and experts: '*fisheries scientists are very good within their parameters but fishermen have the real richness of information*'; '*we have local information and scientists might have comparative knowledge about different areas*'; '*scientists know less than the fishermen on some aspects, whilst we do not know as much as they know on other aspects, so we need a coming together of fishermen and scientists to pool their knowledge*', some mentioning the success of the Fisheries-Science Partnership<sup>11</sup> in promoting this. An example of the need for collective learning that was discussed by 33% (9) of the interviewees was the need to incorporate fishers' knowledge of the movements of stocks into sampling programmes for stock assessments: '*scientists are finally appreciating that it is wrong to return to exactly the same spot to undertake experimental fishing every year, as the fishermen know that the stocks have moved and where they have moved to - fish have tails and they swim!*'.

<sup>11</sup> [www.cefas.co.uk/data/fisheries-science-partnership-\(fsp\).aspx](http://www.cefas.co.uk/data/fisheries-science-partnership-(fsp).aspx)

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Several discussed hurdles to this approach that would need to be overcome, one being a lack of trust between fishers and scientists, the former being suspicious that their knowledge might be (mis)used against them and the latter being suspicious that fishers might strategically provide (mis)information to minimise the impacts of any NTMPAs on their fishing activities. Others discussed the lack of time that fishers have to dedicate to communicating their knowledge and the challenges of getting the validity of fishers' knowledge recognised: '*it can be very hard for a fisherman to convince people with letters after their name that you know what you are talking about*', this point being supported by arguments that local knowledge amongst resource exploiters should be treated in the same way as scientific knowledge, rather than being discounted on the basis of a lack of training or social position [15]. This is consistent with the argument that consensus on the validity of different knowledges is an important condition for successful governance [6].

Encouragingly, the role of different knowledges was accepted by the majority of interviewees, as was the potential for collective learning to improve fisheries management. Whilst no fisheries scientists were interviewed, the rationale of the Fisheries-Science Partnership (see footnote 11) and its success in incorporating fishers' knowledge indicates a degree of acceptance amongst experts of the validity of fishers' knowledge. Were NTMPAs to be designated, the majority of interviewees would expect their knowledge to be integrated with that of scientists and included in the design process and this would seem to be a reasonable and realistic expectation. This is, indeed, the approach that the Finding Sanctuary project is adopting, but whilst the fishers are relatively willing to provide information on the spatial and temporal distribution of their activities, they have, at the time of writing, so far been reluctant to provide their knowledge on fisheries and related ecosystem structures and processes, partly due to concerns that this information might be used in a manner that undermines their interests<sup>12</sup>, as is discussed above. Considering that the Finding Sanctuary project is being proposed as a model for the design of regional MPA networks throughout the UK, it would appear that the prospects for including fishers' knowledge in MPA network design are positive, though several challenges clearly remain to be addressed in this respect.

### **Potential for local protectionism through property rights**

There is a growing interest in the potential of assigning property rights to fish stocks as an incentive to improve fisheries management [16,17,18,19], discussed in terms such as territorial use rights in fisheries (TURFs) [18,20] and 'enclosure' through the assignation of individual transferable quotas (ITQs) to a particular community of fishers for a particular area [21]. Whilst some have argued that the assignation of property rights will address the root causes of fisheries mismanagement, where NTMPAs will simply be a 'band aid' [22], the two approaches are not mutually exclusive. Fishers in the north-eastern United States, who were granted community-run ITQs over shellfisheries, voluntarily designated MPAs to promote biodiversity and resilience [21] and areas managed by users through such rights can show add-on conservation benefits [20] that complement MPAs. Whether fishers granted property rights will pursue NTMPAs is highly debatable, not least of all because of the divergence between fisheries and biodiversity conservation objectives [1,2].

In order to explore these issues the interviewees were asked whether they would be interested in being assigned use rights for the local areas that they fish, in partnership with other local fishers, recognised incomers and the relevant fisheries management authority, as part of a package of initiatives, including the potential designation of NTMPAs. The majority (66% - 19) of those that discussed this stated that they would not be interested in being assigned such community user rights as this would restrict their

<sup>12</sup> *Pers. Comm.* Tom Hooper (Project Manager, Finding Sanctuary) concerning the FisherMap initiative. <[www.finding-sanctuary.org/staticfiles/pdf/Fishermap\\_final\\_report\\_\\_web\\_.pdf](http://www.finding-sanctuary.org/staticfiles/pdf/Fishermap_final_report__web_.pdf)>

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freedom to move to different areas in response to changes in fish stock movements and to seek sheltered grounds in bad weather, and would essentially represent yet another restriction on the fishing industry. Blythe et al's [23] findings support this, in that they report a 'vehement' opposition to the official assignation of territory ownership amongst fishers in south-west England. Within the present system, fishers can fish anywhere within the larger region to which their licence applies (subject to certain specific technical, temporal and spatial restrictions), be this under European or inshore fishery legislation, and whilst there are customary allocations of specific grounds to certain boats in certain areas, particularly inshore, the majority did not want to see this being inflexibly formalised through the allocation of community user rights. Whilst they recognised the potential advantages of certain fishers being allocated certain grounds, over which they had property rights and devolved management responsibilities and within which they could reap potential local spillover/export benefits of NTMPAs, the majority considered that the disadvantages of such an approach outweighed the advantages, contrary to the growing calls for the assignation of property rights to fisheries.

### **Particular vulnerability of inshore fishermen**

The UK fishing fleet is dominated by smaller (<10m) vessels that are largely confined to inshore waters (<6nm), with 5326 such vessels comprising 77.4% of the UK fleet in terms of vessel numbers in 2007 [24]. Whilst this figure clearly does not represent the proportion of fishing effort exerted by UK vessels, >10m vessels generally deploying more gear and having greater engine power, it is clear that there is a relatively high number of smaller vessels that are largely confined to inshore seas and that this number represents a high number of individuals engaged in fishing as both a living and a way of life. The inshore fleet is, however, currently facing a crisis as a result of a severe shortage of quota for stocks that are subject to total allowable catch (TAC) restrictions under the Common Fisheries Policy (CFP). Inshore vessels are allocated a small share (usually <5%) of the UK TAC for stocks managed under the CFP but the amount of such stocks caught by inshore vessels was, until recently, estimated on the basis of an 'assumed uptake' of their quota. The introduction in 2005 of the 'buyers and sellers registration scheme', that is a CFP measure intended to prevent the marketing of over-quota 'black fish', required the actual catches of regulated species by inshore vessels to be recorded. Suffice to say that the actual catches were several times greater than the assumed catches, therefore the UK government was required by the EC to limit the landings of CFP regulated stocks by inshore vessels to strict quotas. Unfortunately, these quotas represented a fraction of the actual previous catches of inshore vessels, so bycatch restrictions began to be introduced in 2007 as CFP regulated stocks are caught with non-regulated fish in a highly mixed fishery, forcing inshore fishers to discard many fish, leading to severe economic hardship for inshore vessels<sup>13</sup>. This has left many inshore fishers highly vulnerable to any further restrictions on their operations, particularly those that largely target fin fish, most shellfisheries not being regulated under the CFP.

It is widely recognised that inshore seas tend to be more complex than offshore seas in terms of the diversity of habitats and species they support. Inshore seas also tend to be more complex in terms of the diversity of human activities they support, including extractive (e.g. fishing) and non-extractive (e.g. recreation) activities. Whilst inshore seas are thus relatively complex in terms of their biological and use diversity, they are relatively simple in terms of the complexity of their fisheries management regimes, as inshore (<6nm) fisheries management is not directly affected by the geopolitical complexities of shared access by vessels from other European countries under the CFP. The convergence of biological diversity with regime simplicity, relative to offshore seas, is key amongst the reasons why the vast majority of MPAs under European legislation around the UK are inshore (77 designations covering ~6% of territorial waters out to 12nm), with only five offshore MPA designations along with some more recent offshore

<sup>13</sup> The *New Under Ten Fishermen's Association* has been formed to campaign against what they argue is an unfair and illegally small allocation of quota to the <10m fleet <[www.nutfa.org](http://www.nutfa.org)>



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MPA proposals. Whilst there is currently only one small inshore MPA in England (Lundy - 330ha) which is actually no-take, recent calls and proposals for further MPAs under the Marine Bill, potentially including NTMPAs, represent a major concern to inshore fishers.

Of the 39 interviewees that discussed this concern, 85% (33) argued that inshore fishers are particularly vulnerable to NTMPAs as they are critically dependent on their local, customary grounds, their boats being too small for them to steam offshore or along the shore to alternative grounds in safety. They also argued that inshore fishing operations have much less of an impact on fish stocks and marine ecosystems as smaller, less powerful boats use less gear, much of which is static, therefore the impacts on inshore fishers of NTMPAs would be relatively high whilst the conservation benefits would be minimal: *'NTMPAs are most likely to be placed inside 6nm where they will damage the inshore sector that actually does least damage to the environment and are most vulnerable if the local grounds on which they rely are closed'*; *'inshore NTMPAs will critically affect inshore fishermen when this is the very sector that is not doing any real environmental damage and should be the sector that conservationists are focusing on as good practice.'* Some discussed that one reason inshore designations were more likely is that *'NTMPA advocates prefer inshore NTMPAs along the shore so that they can identify with these designations and people can see them, therefore inshore fishermen, who are most sensitive to such closures, are more likely to have to suffer them, whilst the big damaging vessels offshore will be able to carry on out there.'* These interviewees argued that only a few small inshore NTMPAs, like that at Lundy, should be pursued, which is similar to arguments put forward for NTMPAs in Canada [25], that inshore fisher representatives should be closely involved in their design to minimise their impacts, and that it might be more appropriate to pursue static gear MPAs rather than total no-take MPAs, given the low impacts of these gears and the dependency of many fishers on employing them. It is significant to note that 24% (8) of the interviewees that put forward such arguments operated offshore whilst 42% (14) were general fishing industry representatives, quota managers and regulators, so these views were not confined to inshore fishers.

The majority of interviewees argued against the designation of a network of inshore NTMPA due to the particular vulnerability of inshore fishers to further restrictions in the face of the quota crisis, coupled with the relatively low impacts of this sector. It is likely, however, given the relative heterogeneity of inshore habitats, that further MPAs, including some NTMPAs, are likely to be pursued in inshore waters, and that *'the biggest battle is going to be fought with inshore NTMPAs.'*

### **Social and environmental justice issues**

The importance of taking account of justice and equity issues when designating and managing protected areas is increasingly recognised [26,27]. Further recognising a distinction, in the context of fisheries management, between social justice – the fair allocation of adequate access to grounds and stocks amongst fishers in order to provide for their economic sustainability, and environmental justice – managing the ecological impacts of fishing for the wider societal benefit of present and future generations, the views of interviewees on such justice issues raised by NTMPAs were explored. They were asked to give their balance of opinion in relation to two questions – Why should fishers bear the costs of further restrictions through NTMPAs for wider societal conservation gains? – Why should society bear the costs of environmental damage through fishing for the gain of fishers? Of the 16 interviewees that discussed such justice issues, a majority (63% - 10) were inclined towards the former social justice perspective: *'fishers will bear cultural and economic costs for an unnecessary wider gain for the greens and other vested interests'*; *'I don't think it is fair that fishermen should bear the costs through NTMPAs for a wider gain, as it is so unsure what the gains will be in the long term but the losses will be immediate'*.

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This perspective is clearly related to the need for compensation, 93% (38) of the 41 interviewees that discussed this considering that fishers should be compensated for any economic losses they will incur through NTMPA exclusions: *'it all comes out of the cod-end! If they are to lose a proportion of their income they need to be compensated'*; *'to close such a large proportion of the seas [20-30%] without compensation would be morally and economically wrong.'* Some further argued that (1) compensation should not be confined to vessel owners, otherwise the crew and others whose living depends on servicing the fishing industry will still suffer economic losses; (2) compensation could be on a transitional basis if the fishery spillover/export benefits of NTMPAs eventually compensate for the losses incurred by the closure of grounds through such designations; (3) as farmers are given agri-environment payments to compensate them for losses incurred through terrestrial nature conservation initiatives on their land, it is only fair that fishers should also receive such compensation. Most, however, accepted that such compensation was extremely unlikely to be forthcoming from the government, and so far discussions and proposals for compensation to the sea fishing industry as a result of MCZ restrictions have been conspicuously absent from government documents related to the Marine Bill. Pessimism over the prospects for such compensation would appear to be well founded, based on the precedent set by recent closures for biogenic reef conservation in south-west England – parts of Fal & Helford estuaries and of Lyme Bay closed to scallop fishing - in relation to which compensation has so far not been offered or even explicitly discussed, though the economic costs to fishers will continue be assessed.

In the absence of specific official discussions concerning compensation to fishers, the factors behind the UK government's reluctance to pay such compensation would appear to include that (a) marine fisheries represent a public right therefore those exercising that right are not eligible for compensation from the public purse, noting that the Marine Bill includes provisions for compensating fishers of migratory stocks, e.g. trout, salmon, on rivers subject to private fishing rights; (b) fishers can switch to alternative grounds to maintain their income, recognising that this can incur extra fuel/labour costs and raises not only extra risks related to vessels being forced to steam further to less safe grounds but also the risks related to effort displacement [2]; (c) experience with compensation claims arising from fisheries exclusions related to private developments, e.g. oil, gas and wind farm developments, indicates that it can be extremely challenging to distinguish between fishers who claim they rely on fishing in a given area in order to claim compensation and those that actually do rely in such fishing, and, in the latter case, to determine what proportion of a fisher's income is derived from a given area. Some interviewees recognised such factors, but the majority also considered that such compensation should be paid and whilst they were understandably pessimistic about the prospects in this respect, the majority considered that the lack of such compensation represents a social injustice.

A minority (25% - 4) explicitly acknowledged the validity of the environmental justice perspective, two stating that such issues could be addressed by restricting the more damaging towed fishing methods and two stating that fishers have a responsibility to society to conserve marine biodiversity, but that society must also accept a responsibility to compensate fishers for losses they incur in addressing this responsibility. A further 2 interviewees stated that they respected the validity of both the social and environmental justice perspectives, one highlighting that there was a symmetrical duty of care whereby the fishing industry's responsibility to ensure the health of marine ecosystems must be balanced by society's responsibility to ensure the health of the fishing industry. On the whole, though, discussions related to justice issues were dominated by the social injustices that would be suffered by fishers through their exclusion from NTMPAs.

It is also important to note that several interviewees discussed the international injustices that would be raised if NTMPAs in Europe displaced fishing effort to less economically developed countries through increased distant water fisheries, e.g. off Africa and Asia. Such international effort displacement is an important aspect of debates related to the demand of EU countries for fish in the face of increased calls

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for NTMPAs, recognising that a growth in such designations would, at least in the short term, reduce the supply of fish from EU waters. Whilst there is increasing attention on the environmental and social justice issues raised by such distant water fisheries<sup>14</sup>, this remains a neglected aspect of debates related to the need for NTMPAs and other fisheries restrictions in Europe. In a similar sense, several interviewees discussed how it would be morally indefensible if stocks were not harvested as a result of NTMPA designations in the face of growing pressures on the world's food supplies and existing and potential levels of human starvation.

#### Conclusions

In the face of growing calls for NTMPAs around the UK and the passage of a Marine Bill, which will provide a legal framework for them, the views of fishers and industry representatives reveal a growing frustration, if not resentment, concerning the 'insatiable' green lobby's interference in their living and way of life. The growing role of NGOs and wider societal interests in marine decisions is considered by many to be increasingly marginalising the industry and it is feared that NTMPAs may be imposed on them, in which case many also accepted that industry representatives should constructively engage in related discussions in order to minimise the impacts on fishing activities, a minority considering that decisions will often have to be taken 'above their head'. This indicates that there is potential for the pragmatic participation of the fishing industry in NTMPA decision-making processes, most also stressing the need for their knowledge to be recognised and integrated into such processes through collective learning with scientists. Despite the growing calls to assign property rights to stocks and grounds as a means of improving the conservation of marine fisheries and biodiversity, the majority considered that the disadvantages of such an approach, through restricting their freedom to move to different areas, outweighed the advantages.

Due to the vulnerability of inshore fishers, particularly as a result of quota shortages, coupled with the relatively low impact of their activities, most considered that NTMPAs will be particularly damaging to this sector and that only a few small NTMPAs should be pursued inshore, though it was recognised that a network of inshore NTMPAs is likely to be a priority due to the proximity and heterogeneity of inshore habitats and that *'the biggest battle is going to be fought with inshore NTMPAs.'* Most considered that all affected fishers should be compensated for the losses they incur as result of exclusion from NTMPAs and whilst they were pessimistic about the prospects, they considered that the lack of such compensation represents a far greater social injustice than any environmental injustices posed by the impacts of fishing.

In a related sense, many interviewees considered that the political marginalisation of the fishing industry is reflected by an unjust geographical marginalisation: *'our seas are subject to more and more area claims related to wind farms, oil/gas developments, cables, etc which displace fishing, and NTMPAs will add to this. There is a need to identify 'fishing areas' which can be set-aside for the industry, to balance the increasing claims that are being made on fishing areas, otherwise it is unfair on the industry.'* Many stressed the need for the fishing industry to become more organised and constructively involved in order to address their increasing political and geographical marginalisation, and it is clear that the industry now recognises the importance of rising to this challenge.

A report to inform the implementation of the ecosystem approach in the UK's seas [29] recognises, in keeping with the Convention on Biological Diversity, the importance of promoting both conservation and sustainable use in an equitable way, through the promotion of, *inter alia*, environmental, social and economic coherence. The Marine Bill will form the legislative basis for implementing the ecosystem

<sup>14</sup> See, for example, Brunner et al [28] and various related reports by the Environmental Justice Foundation <[www.ejfoundation.org/page95.html](http://www.ejfoundation.org/page95.html)> and ActionAid <[actionaid.org.uk/100810/taking\\_the\\_fish.html](http://actionaid.org.uk/100810/taking_the_fish.html)>; note that the EC is arguably addressing such issues <[http://ec.europa.eu/fisheries/cfp/external\\_relations/bilateral\\_agreements\\_en.htm](http://ec.europa.eu/fisheries/cfp/external_relations/bilateral_agreements_en.htm)>.

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approach [3] and it is recognised that the policies arising from the Bill must address the ecological impacts of fishing as a key priority and that NTMPA designations should be central to this strategy [30]. It must, however, also be recognised that this need not necessarily be achieved through the political marginalisation of the fishing industry and without regard to the social injustices that NTMPAs can precipitate. The findings of this research reveal the diversity of views amongst those involved in the fishing industry and indicate that there is potential for the pragmatic and constructive participation of industry representatives, even though the majority (77%) of fishing and related representatives object to NTMPAs [2]. The findings also support arguments that this potential should be realised, as the environmental coherence of our seas need not be achieved through the social and economic isolation of our fishing industry.

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