

## MCZ Consultation: Replies from the Boat Owners' Response Group, author

Dr Michael Simons

Site name: Studland Bay, rMCZ 50

**Q.2 Are there any additional features (not recommended by the Regional MCZ Projects) located within this site that should be protected? Please explain and provide evidence to support your views as necessary.**

No

**Q.3 Do you have any comments on the proposed conservation objective(s)? Please provide evidence to support your comments as necessary.**

Apart from the seagrass *Zostera marina* the species listed as of conservation interest seem ill chosen:

it is generally accepted that the native oyster *Ostrea edulis* is not present at all in the Bay;

the undulate ray *Raja undulate* has been observed but is a highly mobile species widely distributed along the South Coast and there seem to be no reports that Studland Bay is in any way a favoured or significant location, for egg-laying or otherwise – indeed the MarLIN description of its habitat is “The undulate ray is an offshore demersal species with a depth range of 50-200 m often found on sandy bottoms”, (<http://www.marlin.ac.uk/speciesinformation.php?speciesID=4231>), whereas Studland Bay is inshore with a depth of just 2 – 4 m. If the MarLIN description is correct, there would seem to be no particular affinity for the species with the Bay. The author has found no support for the assertion that the Studland eelgrass beds serve a nursery function for the undulate ray, other than the assertion itself in the JNCC/NE “Advice” report, table 3. Further, the inclusion of this species at Studland contrasts with the recommendation in the Balanced Seas Needles rMCZ, **not** to designate the undulate ray – it states that undulate ray breeding grounds occur (in that rMCZ) but the species **is not thought to require protection there**.

(<http://webarchive.nationalarchives.gov.uk/20120502155440/http://www.balancedseas.org/gallery/download/1050.pdf> ) If that is the case, why should this highly mobile species require protection at Studland, for which there is no evidence of breeding or significant presence, but not at The Needles?

While the short-snouted seahorse *Hippocampus hippocampus* has been reported at Studland, the actual numbers have not been clearly reported and are believed to be very small (they have been confounded with the numbers for the long-snouted or spiny seahorse *Hippocampus guttulatus* of which a mere nine individuals were recorded in the 2012 season) – which is consistent with the report from the Seahorse Trust showing that only 3% of recorded short-snouted seahorses were found in eelgrass, leaving 97% not in eelgrass – and eelgrass is the predominant habitat in Studland Bay. (<http://www.theseahorsetrust.org/userfiles/PDF/British>

[Seahorse Survey Report 2007.pdf](#) page 17) . Declaring eelgrass beds as a Conservation Zone for *Hippocampus hippocampus* would make as much sense as declaring a cow pasture a conservation zone for ducks (ducks can occasionally be found on fields after rain, but they do not in general prefer to be in fields, fields are not a significant duck habitat).

The Seastar Survey report (see qu. 5), which entailed extensive diving survey work over two seasons, commented on p.21 “*Notably, neither species of seahorse thought to be resident within the bay, was encountered at any time during this project*”.

So in view of the non-existence or scarcity of these three species in the Bay, the setting up of a conservation zone would, at a strategic level, produce negligible conservation benefit to the three species, at considerable socio-economic cost.

The remaining FOCI is the seagrass (eelgrass, *Zostera marina*) habitat. However, seagrass beds now enjoy a significant level of protection from the SIFCA Seagrass Management Strategy (publ. by Southern IFCA 2012) which has established a voluntary code of conduct to prohibit use of towed bottom fishing gear in seagrass beds, which will be backed by legislation if not properly observed. SIFCA have also published charts of seagrass bed locations. Thus seagrass is already protected from damage by towed bottom fishing gear, so designation of seagrass beds would only be justified if evidence showed that anchoring and moorings caused significant loss of the seagrass habitat. In this regard, there have been important changes in data certainty which are described under Qu. 5.

It is worth noting that historically, the main causes of loss of eelgrass beds are natural disease, pollution and eutrophication, turbidity and low light levels, and storm damage. Designation would do nothing to prevent such losses, presuming there are legislative controls on pollution already in place.

**Q.5 Is there any additional evidence to improve data certainty for features within this site? If yes please provide evidence.**

Since the cut-off date, 16<sup>th</sup> March 2012, for the JNCC/Natural England “Advice on recommended MCZ’s” report, a number of new reports and analyses have become available. All point in the direction that, contrary to the JNCC/NE “Advice” report, the eelgrass (seagrass) habitat in Studland Bay is sustainable in the presence of anchoring by recreational craft, and that the eelgrass extent is greater than ever before. The findings reported in items 1 and 2 below, the Seastar Survey and MAIA reports, suggest that the eelgrass in the Bay is in Favourable Condition according to the definition recently published by DEFRA, which is given in the answer to Question 9.

1. **The Seastar Survey Report** (Axelsson, M., Allen, C. and Dewey, S. (2012). *Survey and monitoring of seagrass beds at Studland Bay, Dorset – second seagrass monitoring report. Report to The Crown Estate and Natural England by Seastar Survey Ltd, June 2012*)(<http://www.thecrownestate.co.uk/media/313222/Seastar%20survey%20Studland%20Bay%20second%20seagrass%20monitoring%20report.pdf>)

This study involved detailed surveys by divers of eelgrass beds in a voluntary no-anchor zone, and in an uncontrolled zone in which anchoring continued, over two growing seasons. Some differences were observed, but the overall conclusion was that there was no consistent evidence of boat anchoring impacting the seagrass habitat at Studland Bay.

The average eelgrass shoot density in each zone was found to be 170 shoots m<sup>-2</sup> or 190 m<sup>-2</sup> if a period of storm damage is excluded, which compares with a range of 100 – 300 shoots m<sup>-2</sup> in the wider Weymouth Bay and Portland area, i.e. a typical density, and this after ongoing anchoring by leisure vessels in Studland Bay over a period of 50+ years.

This report provides clear observational evidence that the eelgrass habitat is sustainable in the presence of leisure boat anchoring in Studland Bay, and thus flatly contradicts the “best available evidence” in the JNCC/NE “Advice” report in which the cited document reports the view of a panel of an unknown number of unidentified “experts” that eelgrass is “highly sensitive” to shallow surface abrasion / penetration with a “high degree of confidence”. It very clearly is not.

## **2. The MAIA Report (*awaiting publication*)**

The MAIA report made use of historical aerial imagery. The validity of the analyses was checked by sample ground-truthing. 156 ha of seagrass beds were identified in the 2008 imagery, of which 61 ha were sparse cover. This compares with 100 ha previously recognised. Images from 1953, 1972, 1985, 1990, 1997 and 2008 were analysed, and while showing fluctuations, appeared to show a general trend in increasing area of eelgrass as time passed, despite the ongoing use of the area as an anchorage throughout the period. This is consistent with the view of local residents that the area of eelgrass has been steadily increasing over time.

This information was made available to us in a draft copy of the report which had not yet gone through what is described as a “quality assurance” process by Natural England. At the time of writing, the final report has not yet been released.

Some claims in the draft report concerning physical integrity of the beds are open to challenge, but that would require access to the final report and to data whose electronic publication is promised but is not yet available.

## **3. Delays in publication of reports**

Unfortunately, despite having had the initial draft of the MAIA report since June 2012, and a final draft since mid October 2012, Natural England have yet again failed, over a period of several months, to publish a key report in time for a critical step in the MCZ process.

The earlier failure was in the publication of the Seastar Survey Report, which was not released until after the closing date for evidence for the JNCC/Natural England “Final Advice” report. This kept the way clear for NE to use a highly questionable Vulnerability Assessment (VA) to declare moderate confidence in the “Recover” condition of the eelgrass beds, whereas the evidence-based Seastar Survey Report did not support that conclusion. See heading 6 for further discussion of the VA.

4. **The wider literature:** No reports have been found in the worldwide scientific literature reporting significant damage to *Zostera marina* beds caused by anchoring of leisure boats.

BORG has been making this assertion publicly for over a year, and none of the interested parties have been able to contradict the assertion. A report by Collins et al (COLLINS, K. J., SUONPÄÄ, A. M. & MALLINSON, J. J. 2010. The impacts of anchoring and mooring in seagrass, Studland Bay, Dorset, UK. Underwater Technology: The International Journal of the Society for Underwater 29: 117-123 ) gave an unquantified anecdotal report of divers seeing damage caused by anchoring, and reported on a small number of bare patches of seabed but failed to establish the history or origin of the patches, or indeed that they were caused by anchoring in the first place. This remains, to our knowledge, the only published paper describing anchor damage to eelgrass.

It is true that anchor damage to certain warm water seagrasses such as *Posidonia oceanica*, has been reported, but *Posidonia* is a different species from a different plant family and has characteristics making it much more vulnerable to long term damage. Thus it does not represent a valid proxy for *Zostera marina*.

5. **Eelgrass recovery potential:** A literature review by Simons (Simons, M.J., Potential for rapid recovery of eelgrass *Zostera marina* from short-term damage: a review, published in 2012 by BORG at <http://boatownersresponse.org.uk/Eelgrass-recolonisation.pdf> ) describes a number of studies which found efficient recolonisation of eelgrass beds after different types of damage, including physical damage by raking out plants and rhizomes from 2x2m test plots. Additional similar evidence published after the review, as well as an overview summary of the evidence surrounding anchoring and eelgrass, is published in a summary paper by the same author (Simons M.J., Eelgrass and Anchoring, Evidence and Resilience, , published in 2012 by BORG at [http://boatownersresponse.org.uk/Workshop\\_presentation6.pdf](http://boatownersresponse.org.uk/Workshop_presentation6.pdf) ) . It is also available, in an updated version, at [http://www.marinemanagement.org.uk/protecting/conservation/documents/studland/121126\\_eelgrass.pdf](http://www.marinemanagement.org.uk/protecting/conservation/documents/studland/121126_eelgrass.pdf)

It is our view that, while the act of anchoring may at times cause limited damage to some eelgrass plants, the regenerative powers of eelgrass beds, which have a highly dynamic life-cycle, are sufficient to repair any damage at such a rate that the seagrass habitat is sustainably maintained from year to year. This we contend is the explanation of the observed facts, that Studland Bay supports some of the most extensive seagrass beds in Dorset, while at the same time providing a much valued anchorage for thousands of small craft annually over a period of more than fifty years. The MAIA report suggests that the seagrass beds are even more extensive than previously believed, and it is widely accepted that the extent of the beds in Studland Bay is currently at an all time high.

## 6. **JNCC/NE “Advice to Government”**

(<http://publications.naturalengland.org.uk/publication/2030218?category=1723382> )

The Statutory Body’s Advice to Government, dated July 2012, stated

“In the Finding Sanctuary project area, the seagrass bed feature within Studland rMCZ and Torbay rMCZ are assessed as having moderate confidence in condition.(i.e. “Recover”) For the Studland rMCZ, this is due to the known presence of recreational anchoring within the feature. The MB0102 sensitivity matrix shows the feature as being highly sensitive with high confidence to shallow abrasion/penetration (Tillin, Hull and Tyler-Walters 2010). It is acknowledged that there are ongoing

site-specific studies of the actual impacts of anchoring. The results of these studies (as well as other ongoing surveys) will help to inform the condition of the feature.)

BORG audited the basis on which the MB0102 sensitivity matrix assessment was reached. Examination of the documents showed that the assessment was made by a “panel of experts” which turned out to be an ad-hoc group of an unstated number of anonymous people which was convened in the afternoon of a general meeting. No specific evidence was cited in support of the conclusion other than a general article on eelgrass (Davison & Hughes 1998), and because the “experts” were not identified, it is impossible to verify the claim that they were actually experts on the subject. The unusual, secretive and largely undocumented nature of the process makes the claim of “high confidence” in the assessment frankly risible.

In BORG’s opinion, the anonymous and evidence-free “assessment” is worthless for informing public policy, and should be disregarded in the light of the real world studies referred to above.

## **7. Seahorse habitat and distribution**

The seahorses which have been reported in summer months in Studland Bay have been used as part of the justification for proposing Studland as an MCZ, as well as for publicity and propaganda to support the campaign. Two factors have become clearer in recent months, beyond the fact that few seahorses are actually seen:

- (a) No information about the location of seahorse sightings has been published. This is surprising, as evidence supporting a proposal which could impact public policy should surely be made available for public examination and scrutiny. Government through secret evidence has no place in a modern democracy. In fact, it is our understanding that the seahorses are only seen in a small, limited area of the bay, towards the inshore edge of the eelgrass beds between the moorings at South Beach. If this is so, then it could have a bearing on any future consideration of a Studland MCZ.
- (b) Study of a report by Garrick-Maidment ([http://www.theseahorsetrust.org/userfiles/Movement\\_of\\_a\\_pair\\_of\\_Seahorse\\_during\\_the\\_summer\\_of\\_2010.pdf](http://www.theseahorsetrust.org/userfiles/Movement_of_a_pair_of_Seahorse_during_the_summer_of_2010.pdf)) reveals a strong correlation between the positions of the seahorse sightings and the edges of a scar patch of bare seabed, the seahorses staying near the scar rather than going deep into the adjoining eelgrass meadow. This suggests the possibility that seahorses actually prefer broken eelgrass cover, and that replacing traditional moorings with non-scarring “eco-friendly” moorings might have the perverse effect of making the area a less attractive habitat to them. This interpretation is speculative, but finds support in an OSPAR document on spiny seahorses: “.....*They occupy only certain parts of seemingly suitable habitats, for example staying close to the edge of seagrassbeds leaving large areas unoccupied. These microhabitats have not been investigated but it has been suggested that there is a trade-off between the shelter provided by dense seagrass and the food availability in areas of good water exchange at the periphery of seagrass patches.....*” ([www.ospar.org/html\\_documents/ospar/html/p00429\\_after%20bdc\\_fr%20h\\_guttulatus.pdf](http://www.ospar.org/html_documents/ospar/html/p00429_after%20bdc_fr%20h_guttulatus.pdf))

The MAIA report also acknowledges these issues:

*“Despite intensive surveys there are currently not enough data to ascertain if certain*

*aspects of the seagrass (density and patchiness) influence seahorse distribution, and more seahorse surveys are required beyond the small area currently surveyed.”*

It would seem unwise to undertake a costly exercise such as replacing existing moorings with a non-scarring type without high confidence in a significant and beneficial outcome.

**Q.7 Do you have any new information on costs to industry not covered in the Impact Assessment, that would be directly attributable to MCZs as opposed to costs stemming from existing regulatory requirements, or evidence that suggests the need for changes to the methodologies or assumptions used in estimating costs (including in relation to fishing displacement)? If yes please provide evidence.**

The DEFRA best estimate cost for the recreational sector in Studland Bay is given as £112,000 per annum, and although the basis of the cost is not spelled out in the consultation document, we presume it relates to installation of eco-friendly moorings to reduce possible anchoring effects.

It would also be useful to make an estimate of the value of recreational boating to the local economy to give an idea of the issues at stake:

Figures are available (Poole Harbour Commissioners, Reed's Nautical Almanac, boating magazines) for boats kept in marinas in Poole Harbour: approx 1500 boats. Assuming an average boat length of 26ft, and a marina charge of £4000 p.a. for a boat of that length, we have a revenue to the marinas of £6 million p.a. A further £400+ for marina services and maintenance, plus £80 harbour dues per boat, increases this total to about £6,750,000 p.a.

There are estimated to be a further 2500 craft on swinging moorings, plus 550 on yacht club berths, say 3000 in all. Annual per boat costs could be £1000 for mooring / berth, £400 maintenance, £80 harbour dues, £120 for boat access, say £1600 in all. For 3000 vessels, that makes £4,800,000. Adding in the revenue from marina boats, this gives a total of £11.5 million paid into the local economy annually for boat services. These figures do not include costs of purchase of vessels and equipment, as these are spread over a wider geographical area, but some of this will accrue to the Poole area and the £11.5 million should be considered a minimum figure.

If restrictions were introduced which reduced leisure boat owners' freedom to navigate and enjoy the local area, especially Studland Bay, and these were to cause some boat owners to keep their boats elsewhere, or even give up keeping a boat, this would be a loss in revenue of £115,000 for every one percent of owners displaced. So a 2% loss would cost £230,000, and 5%, or one in twenty, would cost £575,000 or £11.5 million over 20 years. The number of boats lost to the area could however be very much greater: at a recent meeting of the Poole Association of Yacht Clubs it was confirmed that a significant proportion of their membership at weekends only go as far as Studland, and they believe that without the amenity of Studland Bay membership rolls could fall by as much as 30%.

These figures do not include casual visitors who bring a boat down by road for the day, weekend or week, nor visiting vessels which come by sea, all spend money in the area, and all could be deterred by anchoring restrictions or mooring charges at Studland Bay.

It should be noted that boaters could be driven away from the area for a number of reasons, whether it be a ban on anchoring, the imposition of mooring charges, or even, if an extensive array of free-to-use eco-friendly moorings were provided, by the adverse visual and navigational impact of a sea of buoys covering the Bay.

**Q.9 You may wish to provide comments on other aspects of this consultation such as evidence requirements, identification and treatment of high risk sites. Where you disagree with the approach taken please provide evidence to support your views.**

While one of the drivers of the MCZ process is to establish an “ecologically coherent network of marine protected areas”, we believe that the costs of doing so should be weighed against the actual conservation benefit likely to be achieved in each area. We would suggest money would be better spent in areas where it would make an actual difference. This would need more than a simple “Maintain” or “Recover” classification of sites – the “Recover” designation does not discriminate between a mildly flawed feature whose restoration to pristine condition would give little or negligible measurable benefit, and a gravely damaged feature whose restoration would make a big positive difference. Clearly the former would not be worth spending much time or money on, the latter would.

However, we agree that the definition of “Favourable Condition” given in the Example Designation Order at <http://www.defra.gov.uk/consult/files/mcz-annex-g-121213.pdf> is a more practical basis for classification, which does not require extremes of ecological perfection, and we welcome this.

For reference, it is quoted here:

“—favourable condition means—

(a) in relation to a geological or geomorphological feature within the area designated—

(i) its extent, component elements and integrity are maintained, subject to being able to evolve through changes brought about entirely by natural processes; and, when

(ii) its structure, integrity and functioning are unimpaired and it remains unobscured other than through natural processes; and, when

(b) in relation to a habitat or habitat FOCI within the area designated—

(i) its extent and area are stable or increasing;

(ii) its structures and functions are such that it can maintain itself over the long term; and

(iii) the biological diversity of its characteristic communities is maintained such that the quality and occurrence of habitats and the composition and abundance of species in those communities are at least as favourable as those characteristically found in the prevailing physiographical, geographical and climatic conditions;

—FOCI means a feature of conservation importance that is rare, threatened or declining in the UK marine area.”