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Finding Sanctuary: Steering Group

Answers to the questions on the Interim Guidance

(raised at 24th November 2009 meeting)

1. **How much will current identified sites, egSACs, 'do the job'? What's the overlap between them and MCZs?**

Following the advice from the Steering Group, the analysis is now underway to work out to what extent existing sites "do the job". Early indications from a very rough analysis done before the SG meeting showed that, for some of the species and biotopes in the interim guidance, the existing sites probably meet a high proportion of the targets already. There is a complication in that a feature isn't necessarily being adequately protected just by virtue of it being located within an exsiting MPA – if that MPA is managed in a way that benefits only a limited set of the features it contains. That is very likely to be the case for SACs, which are designed to protect only a very limited list of species and habitats (other species present may, in effect, also be protected – but they may not – and this is part of what we need to work out).

For all of the listed species, biotopes and habitats, we will work out what is already adequately protected within existing protected areas, and what additional amounts will need protecting through MCZs. For our purposes, we can revise the targets downwards accordingly. This will be done in time for the next SG meeting.

So as far as overlaps between MCZs and other MPAs go, remember that the interim guidance (as well as the official ecological guidance that we will get next year) refers to the UK MPA network as a whole, not just the MCZ portion. So any part of the guidance that's already met, we don't have to worry about creating yet more sites to meet the same goals again.

Regarding any spatial overlap between existing MPAs and MCZs, that is a separate question. I don't think it was the intended question in this instance, but it's a good one, so I'll answer it: There is no legal reason why we can't have MCZs that fall within, or overlap, existing MPAs. This will only make sense where features occurring in existing MPAs aren't adequately protected, and the MCZ is designed to place additional protection measures on top of the existing ones. This does not have to be done, but our project is free to explore MCZs overlapping with other designations, and we may well end up making recommendations that include such instances if the SG think it makes sense (and it contributes towards meeting ecological guidance, obviously).

2. **How do we deal with areas where very detailed data is available, versus poor data areas? How can we avoid focusing too much on one over the other?**

This is a big issue in the marine environment, where we have patches of very good and detailed data along the coastline, and very little detailed biological information offshore. However, the guidance from Government is clear that we need to make use of best available data, even if there are still uncertainties and gaps associated with that. This does pose difficulties, but there are ways of dealing with them.

If we only had ecological goals associated with species and biotopes of conservation importance, then the outcome would indeed be biased very much towards a string of sites hugging the shoreline. However, if you refer to the interim guidance document, and the notes with the maps at the beginning of section A of the regional profile, then you will see the emphasis that this process is placing on developing a representative network of sites, and using a "coarse filter" approach towards achieving that.

The modelled EUNIS level 3 habitats cover the entire study region, and each of these habitats needs to be replicated within separate sites in the region. There are also guidelines in the interim guidance on connectivity, which will require some eveness in the spacing of sites throughout the region. These are all ways to overcome a complete bias towards areas that are data-rich.

Using Marxan, there are also technical tricks that can be used to overcome a bias towards data-rich areas, and these will be used by the project team. I will not go into technical details here, but please do come back with detailed questions if you're interested in the intricacies.

3. Are there any percentage targets for scientific reference ('no take') areas?

Not at the moment. However, there may be when the official guidance is released.

4. How can we plan protected areas in mobile environments, e.g. areas where sediments are shifting around a lot because of currents?

There are two answers to this question. First, if a dynamic habitat is listed as a feature to protect, then the fact that the environment within a protected area changes a lot would not matter – indeed, the changing nature of it would be part of the inherent characteristics of the feature that needs protecting. An example might be some of the "high-energy" sediment habitats in the EUNIS classification, which have targets listed in the interim guidance.

However, if there are areas where we know that there are huge shifts over time, e.g. parts of the Bristol Channel where sediments move between areas, periodically exposing underlying rock, then those would not be good areas to pick if the goal is to protect, say, a stable rocky habitat.

5. How can we ensure that mobile species are taken into account properly before we get the official guidance?

The interim guidance does refer to areas of importance for mobile species as areas which should be given priority conservation, but there are no quantitative targets set for such areas. There are still datasets that we are waiting for nationally (e.g. spawning and nursery ground data) which will help us to consider these areas in planning. Even though there aren't any quantitative targets set in the interim guidance, we can explore options of setting targets for protecting a proportion of these areas within our planning scenarios. Alternatively, the SG can discuss specific areas of special importance for mobile species, which we can "lock in" to network scenarios.

It's unclear whether there will be any minimum areas or quantitative guidelines for areas relating to mobile species in the final ecological guidance, as the interim list of species and habitats that we have been given by the project board only contains benthic (seafloor) features. However, there is nothing to say we can't go beyond the ecological criteria set out in the guidance, if the SG thinks that is appropriate, and the negative impacts are acceptable or outweighed by the positives.

6. What is meant by "protection"? What will protection levels be? How will they be defined?

There is no fixed level of protection for MCZs - an MCZ could mean anything from a restriction on a small number of activities through to complete no-take areas. The appropriate level of protection will depend on the ecological objectives for a site.

So, when designing MCZs, we will need to think about ecological objectives for each site, and what impacts are incompatible with those objectives. For example, the objective might be to protect fragile sponges and seafans on a rocky reef, or to protect the animals that live in stable, sandy seafloor habitat (forming an important component of the food web). In those cases, aggregate extraction or bottom-towed fishing gears would cause impacts that would not be compatible with the conservation objectives, and those activities would not be allowed within the protected area. However, other types of activities, such as pelagic fishing (fishing in the water column) and sea angling would not impact on the seafloor itself, so they would not need to be restricted. In a different example, if the ecological objective is to set up a scientific reference area, then any extraction of living or non-living resources (fish, gravel, seaweed – anything) would cause impacts incompatible with the objective, so the area would need to be a no-take zone. So the chain of thinking starts with the ecological objective for a site, then moves to the impacts that are not compatible with the objective, followed by what activities cause those impacts.

We will be given guidance by Natural England / the JNCC on what impacts are incompatible with what conservation objectives, which will go some way towards clarifying our discussions, this should be available in spring 2010. However, there is still some uncertainty over who ultimately decides what specific activities cause which impacts, and what restrictions therefore will be put in place in MCZs, and we will need to make some working assumptions. The final decisions will need to be made by responsible authorties like the IFCAs and the MMO, but the process is not entirely clear at the moment. There is also some uncertainty over the timing of these decisions relative to our planning process, and to what extent we as a project can or can't be explicit about recommending protection levels for MCZs.

As the project team, we have always maintained that recommending protection levels needs to be an integral part of recommending sites, and should therefore be the role of the Steering Group. Otherwise, we cannot have a meaningful discussion about the location of sites and the economic and social impacts resulting from different network options. This is a position that we continue to maintain strongly, in ongoing discussions with our national partners and Defra. We will, of course, keep the Steering Group updated with relevant progress and developments.

7. How will the balance be maintained across the food chain?

At the time of writing up these responses, I cannot remember exactly what this question was getting at, but I'll try and give a reasonable answer.

A representative network of MPAs, which includes clear and strong enough protection levels, and which includes some scientific reference sites, will go some way towards re-building and maintaining the marine food web. The purpose of representative areas is to "protect a bit of everything".

That includes the worms, clams and other little animals that live in un-glamorous looking sediment areas, and other features that aren't rare, critically endangered, or good-looking. The reason for this representative approach is to recognise the importance that all different types of features play in maintaining a healthy and balanced marine ecosystem, of which the food web is a part.

We recognise that MPAs can only go part of the way towards maintaining a healthy and balanced marine ecosystem, especially with respect to species that are very mobile. Even if we protect areas of aggregation for mobile species, these animals will still move outside protected areas, and could potentially suffer unsustainable levels of exploitation. One example would be mobile top predators (e.g. sharks): If top predators disappear from an ecosystem, or are reduced drastically in numbers, then that can have significant knock-on effects reverberating through the food web. However, this discussion is one that goes beyond the remit of our project, which is to focus on recommending a well-designed MPA network.

8. How will the issue of time periods of 'closure' for some activities be dealt with?

MCZs can, in theory, include areas where restrictions on human activities are seasonal. This may well be appropriate for areas where there are seasonal aggregations of mobile species, but will be less appropriate for areas where seafloor features are to be protected. The discussions about seasonal closures would need to be carried out in the context of qu. 6 above.

9. It would helpful to separate out, in the interim guidance, the material that is science-based from that which is policy based.

This comment has been taken away as something for us to think about and feed back to the national level, with a possibility of having a clearer document when the official guidance is released. It is a complex issue to untwine, because effectively any guidance has to be a series of policy decisions that are informed by scientific information - so every guideline will be a combination of both science and policy. But there might be a possibility to provide a bit more detail on the underpinning science for each guideline.

10. Do the percentage targets apply to the total real-world distribution of species, biotopes and habitats, or do they apply to the known and mapped distribution (or records)?

I think this question was probably not recorded accurately. If I remember correctly, then the question related to whether the targets in the interim guidance relate to the actual real-world extent of features, or to the known extent / number of existing records of the feature. The answer is that the target percentages relate to the latter, because we can't calculate a percentage of an unknown: we need to be able to relate the percentages to something which we have on a map.

In the case of the biotopes and species on the interim list, the known extent or number of records will underestimate the true extent, because of gaps in data (and this is reflected in the reasoning behind some of the high percentage figures). In the case of the EUNIS level 3 model, however, we would assume that they are the same.

11. Where does the 50% minimum figure (in tables 2 and 3) come from?

This figure came out of discussions at the Finding Sanctuary science workshops in spring 2008, which were held on the basis that we were initially an independent pilot project which was gathering scientific advice in order to develop its own ecological guidelines. The experts gathered considered existing lists of species and habitats of conservation priority (such as the BAP[1] and OSPAR[2] lists). For those features which they thought would benefit from protection in MPAs, a 50% protection of the known distribution was considered a reasonable starting point. This is quite a high percentage, reflecting the fact that anything included on these lists is already widely considered a conservation priority. The percentage was increased for features considered of the very highest priority, based on expert advice at the workshops.

12. Where did the list of habitats and species in the interim guidance come from?

The list in the interim guidance is the same as the interim list of "features of conservation importance", a document which was sent to us via Sir Harry Studholme, by James Marsden on behalf of the national MCZ Project Board, before our November meeting.

The interim list is derived from the BAP and OSPAR lists mentioned under question 11. Both the BAP and OSPAR lists include a huge range of species, the BAP list includes terrestrial ones as well as marine. So as a first step, all marine features were selected, and then the lists were further reduced to include only benthic species and biotopes (i.e. those on the seafloor). So the interim list that we're working on is a narrow subset of marine BAP and OSPAR features (note that none of the work on creating this interim list was carried out by Finding Sanctuary - it has come from the national MCZ Project Board, who got it from their advisors at the JNCC and NE – i.e. the same people who are working on the draft of the official ecological network guidance).

The regional profile includes links to more detailed information on BAP and OSPAR, where you can read up on how these lists were created in the first place, and what criteria were used to determine what species and habitats would be listed.

13. Do the connectivity guidelines (size and spacing "rules of thumb") apply to MPAs, irrespective of what habitat they contain? Or do they apply per habitat?

As they stand in the interim guidance, the guidelines apply to MPAs, irrespective of what habitat they contain. But the question is very well put - different habitats are inhabited by different sorts of species, so to establish connectivity for populations of a single species, you'd have to apply the connectivity guidelines for individual habitats. However, given that we have 23 habitats on the broad-scale list alone, and given the way in which these habitats are distributed, it is in practice difficult to apply the rules for each habitat on the list. It is possible that the official guidance will specify rules that do need to take some account of habitat, maybe at a broader level than EUNIS level 3.

[1] BAP = Biodiversity Action Plan, the BAP list is a list of species and biotopes that are considered of conservation importance because they are rare, threatened, or declining.
[2] OSPAR = Oslo and Paris Convention for the protection of the North-East Atlantic: OSPAR has also developed a list of species and habitats considered of conservation importance.

It is also possible that the Science Advisory Panel will ask us to look at habitat connectivity, at least for a small number of habitats. But for now, we can work with the existing rough rules.

14. Is there a minimum size for MCZs?

There is no formal (legal) minimum, but in effect, sites will have to have a minimum size in order to be able to achieve any benefits at all. In our interim guidance, we are working with the guideline of a minimum of 5-10 km across the smallest dimension of a site, which was adopted from the connectivity guidelines used in the MLPA process in California. It is likely that similar guidelines will be incorporated into the official guidance.

There are instances where a 5km minimum might be considered too large, or practically not achievable. This might be the case especially in inshore areas, and for intertidal habitats which occur only in narrow strips along the shore. Where ecological benefits can be achieved with smaller sites (and the Science Advisory Panel is satisfied that smaller sites would deliver worthwhile benefits), then it might make a lot of sense to explore those options. Irrespective of the size of individual sites, however, we will always need to consider what a site will deliver towards the overall network goals, and if it's only contributing a small amount, then we will still need to identify other (and possibly larger) areas to ensure the overall goals are met.

15. Is the Californian framework (for size and spacing guidelines) suitable for our seas?

The species present in California are obviously different from those that occur here, and there are also some clear environmental differences. Most notably, we have a very large extent of relatively shallow shelf seas (up to about 200 metres depth), with a continental shelf break about 200 nautical miles offshore. The shelf break in California is within the equivalent of our territorial limits, so in some places their water depths drop off to over a thousand metres only a few miles from the beach. However, despite our mental images of hot California sunshine, their waters are cool / temperate, and productive, like ours, and many of their nearshore marine habitats (e.g. seagrass beds, kelp-dominated rocky areas) are equivalent to ours.

The guidelines on size and spacing are based on the scales of movement and dispersal of different types of plants and animals. Even when you're looking at different sets of plants and animals, in two separate temperate sea areas, those scales of movement are likely to be quite similar. The main reason why the Californian guidelines were included in our interim guidance is because they are the only widely published example of well-founded and pragmatic connectivity guidelines applicable to temperate seas. Similar research is underway in the UK, and if that leads to guidelines being included in the official guidance, then I would expect them to be of a similar magnitude to the California ones.

16. Blue mussel beds are harvested periodically (and need that harvesting for the habitat to be maintained). How can you estimate the total stock for the targets to apply to?

The target, in this example, would refer to the total known extent of blue mussel beds, so it would be a measure of area or number of point samples. The harvestable stock itself would not need to be measured to achieve the target.

The appropriate management for sites protecting blue mussel beds would need to be such that the habitat is maintained or recovered, depending on the ecological objective: if that means periodic harvesting, then that would need to happen within the MCZ.

17. What is the relationship between connectivity and replication guidelines?

Again, I have to admit I can't remember exactly what this question was getting at, but I'll try and answer it. In our interim guidance, the connectivity and replication guidelines to not relate to each other, in the same way that connectivity is not specific to habitat type (question 13). But it is another good question, because maybe they should relate to each other: If the same habitat needs to be replicated, then there are scientific reason why you might want to specify both a minimum and maximum distance between protected patches of replicated habitat.

Thinking pragmatically, it gets very complicated to try and achieve this, because of the number of habitats on the list, and also because of the real-world distribution of the habitats narrowing down potential options. There is a possibility that the official guidance will stipulate a relationship between size/spacing and replication guidelines, or that the Science Advisory Panel will take a view on it and communicate that to us. For now, we can work with the interim guidance as it stands.

18. Local Groups could benefit from more explanation on why particular features have conservation value, and how they should interpret regional – scale guidance at their local level.

For the first question, it is our role as a project team to answer queries that the local groups might have, and point them to further sources of information. They will have access (electronically) to the same regional profile and interim guidance materials as the regional SG, and our liaison officers will be present at their meetings.

The second question is a vexed one, because there can be no hard-and-fast answers. The Local Groups don't have clearly defined regions within which they work, and beyond which they cannot put forward any ideas – there aren't any defined offshore borders for Cornish vs Devon seas, for example. And even if, as a project, we were to define those borders, and then asked each Local Group to plan within their bit – then that would still not tell us how to "split up" the ecological guidelines and targets between the counties. Since we need to plan at a regional scale (that is our responsibility as part of the national MCZ project), what happens in Cornwall might have direct implications for what needs to happen in Devon, and vice versa. Trying to split up targets across counties and then reconciling those interrelationships would make our life really complicated. Therefore, all we can tell Local Groups is that the guidance needs to be interpreted at the regional scale, and that they need to work with overall regional targets in mind when they put forward their own ideas and feedback. This is difficult, but we see it as the best way to work in practice.

19. Will the Steering Group be able to comment on the list (or matrix) of activities that cause impacts on habitats and species?

This matrix will be provided nationally to all four regional projects, and is planned to contain two parts: one looking at what sort of impacts features are sensitive two (e.g. pink seafan being sensitive to abrasion of the seafloor), and the second looking at what activities cause those impacts (e.g. seafloor abrasion is caused by benthic trawling, aggregate extraction and dredging). We will use this information to help the process described under question 6 (about protection levels for MCZs).

There is research underway to develop both matrices at a national level. At present, it looks unlikely that there will be any formal consultation on either one, as they will effectively be provided as advice to the regional projects from the statutory nature conservation bodies, and (like the ecological network guidance) will form part of the benchmark that our work will be assessed against by the Science Advisory Panel. There may be the possibility to comment, but it's not certain whether those comments will be able to influence the content.

20. Should we offer the Interim Guidance to the national project team, for 'loose endorsement' and potential use by the other regional projects?

This has already happened. The content of the guidance is not officially endorsed by any national partners, as is stated very clearly on the document itself. However, the national team are supportive of us proceeding with this interim guidance in the period before the official guidance is released, and they did provide a small part of the content (in the form of the interim list of features of conservation importance – note that did not include any percentage targets).

As for the other regional projects, they were all sent the interim guidance document once we finished writing it. This was mainly so they are aware of what we're doing, it's unlikely that they'll use it in anger. Their regional stakeholder groups are still being established, so they'll probably just wait until the official guidance is released.