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## **Part B - Assessment of evidence adduced in the Regional Projects' rMCZ and rRA site descriptions**

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### **1. Executive summary**

An assessment of evidence was undertaken by the members of the SAP to evaluate the robustness of the sources of data used as evidence in the individual Marine Conservation Zone and Reference Area site descriptions provided in the Final Recommendations of the four Regional Projects, Irish Sea Conservation Zones, Finding Sanctuary, Balanced Seas and Net Gain. Evaluation was based on a series of benchmarks which covered three main criteria:

- i) assessment of the types of literature and other sources used,
- ii) reliability and completeness of the citations, and
- iii) personal knowledge of the SAP members.

Whilst there are differences between the Regional Projects in the extent to which key references have or have not been found, it is concluded that the evidence base for all of the rMCZs and rRAs for all Regional Projects will require a further in-depth review of data and information to provide an adequate characterisation of the locations. Improving that evidence base will also help to inform the identification of conservation objectives and management measures. The SAP has identified what at least some of those sources of further information should be.

## 2. Introduction

The descriptions for the recommended Marine Conservation Zone (rMCZ) and the recommended Reference Area (rRA) sites for the four individual Regional Projects (RPs) are the evidence whereby decisions on feature designations and their associated conservation objectives will be made. They also contain a substantial amount of information that will act as an inventory of knowledge of the sites for further purposes including management, future studies, outreach and interpretation. As such, the SAP had requested in a number of our iteration reports that these descriptions should be as comprehensive as possible. In our view, the descriptions should be thoroughly researched, using the best possible evidence available, and robust in order to be able to stand up to rigorous scrutiny in the next stage of the MCZ project. A crucial component of that evidence is the confidence that can be placed in the literature and subsequent use of other source material in the rMCZ and rRA site descriptions.

In order to assess the evidence provided in the Regional Project Final Recommendations, the SAP developed an evaluation protocol using benchmarks designed for this purpose. An account of the methodology to develop the protocol is given in the following section (3.0).

It is emphasised that members of the SAP primarily evaluated the quality and quantity of ecological evidence provided in the site descriptions. Our assessments scores (if low) do not necessarily mean that no data or literature was available or even used by the RPs, only that this evidence was not presented. The SAP members were not able to evaluate the evidence for the effects of human activities at each site. The latter would have required a different set of benchmarks and method of evaluation. However, reliable information on measures of human activity is important in the determination of pressures and hence conservation objectives, and the SAP comments on this in Part A of our assessment.

## 3. Evaluation protocol

### 3.1 Production of benchmarks

A set of five benchmark statements (Table 1) were produced in order to have a scoring method that could be used by all members of the SAP in the same way so that comparative evaluations of evidence could be made for all the rMCZ and rRA sites. The benchmarks provide a scoring system and are based on three main criteria: i) Sources and confidence in the literature and information used, ii) citation of references and iii) SAP knowledge.

#### i) *Sources of literature*

The reasoning behind this aspect of the benchmarks was that peer-reviewed papers were the best sources in terms of the data presented. Other relevant sources of evidence, including grey literature (e.g. governmental and non-governmental consultancy reports, reports of local surveys) and reliable websites and databases ranked next. If sources / literature were of uncertain provenance, then they would be ranked less favourably. Other sources, including personal communications (for example, from Regional Stakeholder Group members) would be given less credence unless they were confirmed by clear evidence in the site descriptions. Information from any source that would be described as 'anecdotal' was scored low.

**Table 1.** Benchmark statement to assess quality of evidence

SAP benchmarks for assessing the quality of evidence used to designate rMCZ and rRA features. The scale is graded from 1-5 (poor - excellent) against a set of benchmarks to
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encompass the different types of evidence used, the amount of evidence used and the extent of the linkages made between the evidence offered and the specific site.

5. Use of literature published in journals, and use of relevant alternative sources of evidence from grey literature or website databases with high confidence of robust provenance, which is directly relevant to the site with strong linkages between the paper contents and site. Complete list of cited references given in the report. SAP member has personal knowledge that these are the key sources of evidence for the site and is unaware of obvious evidence gaps.

4. Use of literature published in journals, and/or use of relevant alternative sources of evidence from grey literature or website databases with high confidence of robust provenance, which is generically relevant at BSH level to the site with moderate linkages between the paper contents and site. Complete list of cited references given in the report. SAP member has personal knowledge that these are relevant sources of evidence but some uncertainty regarding direct link between evidence and specific site.

3. Use of a limited range of literature, published in journals, and/or use of relevant alternative sources of evidence from grey literature or website databases with uncertain provenance, which is generically relevant at BSH level to the site with weak linkages between the paper contents and site. Possible omissions in list of cited references given in the report. SAP member has knowledge that some relevant sources of evidence may be missing, and uncertainty regarding direct link between evidence and specific site.

2. No use of literature published in journals, and limited use of relevant alternative sources of evidence from grey literature or website databases with uncertain provenance, which is either only generically relevant at BSH level or not relevant to the site with weak or no linkages between the evidence and site. Omissions in list of cited references given in the report. SAP member has knowledge that relevant sources of evidence are missing, with heavy reliance on inferential evidence.

1. No use of literature published in journals, and very limited or no use of relevant alternative sources of evidence from grey literature or website databases with uncertain provenance, which has unclear or no relevance to the site with weak or no linkages between the evidence and site. Omissions in or absence of list of cited references given in the report. SAP member has knowledge that relevant sources of evidence are missing, with heavy reliance on inferential evidence.

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ii) *Reliability and completeness of citations in the site reports*

The benchmarks included reference to the citation of the literature. Where a complete list of cited references was given for a site, this would be ranked highly, whereas omissions or absence would rank at the bottom of the scale.

iii) *SAP knowledge*

Where the SAP members had personal knowledge and considered there to be no source gaps for sites and reference areas, sites could score highly. Where SAP members knew that relevant literature was missing and there was a heavy reliance on inferential sources these sites would be scored at the low end of the scale. While such a weighting was dependent on the knowledge of the SAP members and their geographical coverage, it is emphasised that the exercise was carried out within a short timeframe and so gives only a subjective impression of the omissions in the information provided by the RP.

### 3.2 Number of assessment per site and per reference area

SAP members undertook evidence assessment of either inshore and offshore sites and reference areas of the four regional projects, depending on their particular expertise and knowledge. Where possible, at least two members of the SAP were assigned to assess each site and reference areas.

### 3.3 Site assessment and evaluation

In addition to providing a score (from 1 to 5) for each site and reference area, provision was made for i) assessors' specific comments on the sources of evidence, and ii) comments on other matters of concern with the descriptions. The data were then compiled into a composite matrix. Scoring and comments were made independently of each assessor.

## 4. Results

### 4.1 Composite matrix scores

A summary of the scores for each site is given in Appendix 1. There was broad agreement between scores for the individual assessors (74-95%; Table 2). The reference areas for Net Gain had the lowest level of agreement (64%), but this may be due to a larger number of individual assessments by SAP members for these site (n = 3 or 4 for most), which will have increased the chance of differences in score. The SAP therefore concludes that the approach used to assess levels of evidence is a defensible attempt at an evidence assessment, and gives a valid overall view.

**Table 2.** Percentage agreement of scores between the assessors for sites and reference areas. Numbers exclude sites and reference areas where there was only one assessment, where scores were identical or differed by one number (taking the lower figure where a score gave either/or scores).

	ISCZ	FS	BS	NG
Sites	75% (12 out of 16)	74% (29 out of 39)	78% (21 out of 27)	94% (17 out of 18)
Ref areas	77% (10 out of 13)	94% (17 out of 18)	95% (19 out of 20)	64% (9 out of 14)

The percentage of scores for each benchmark category for each site and for each reference areas are given in Tables 3 and 4. To arrive at the scores, the lowest score for each site was taken, so to achieve a score of 5 for a site, all assessors would have scored it as 5, so for example, scores of 4, 5, 5, for a site would be scored as 4. It is acknowledged that this first attempt at summarising the different scores underweights the geographical bias by the SAP members, for example an assessor with more knowledge of a geographical area would have a better indication of the reliability of the evidence than any other assessor.

The scores for the majority of sites for all Regional Projects were relatively low at 2 or 3. ISCZ and FS had a very small number of sites that scored 5, and BS and NG failed to score 5.

Approximately 30% of ISCZ and FS sites scored 4, BS 6% (1 site) but no NG site achieved a score 4. of ISCZ, FS and BS had relatively few sites which scored 1 but NG had 16% of sites in this category. Over 60% of site descriptions in the BS and NG scored either a 1 or 2

**Table 3.** Percentage benchmark scores for all Marine Conservation Zone sites for the Regional projects. Numbers in brackets represent number of sites.

Score (1 low, 5 high)	ISCZ	FS	BS	NG
1	6% (1)	4% (2)	10% (3)	16% (3)
2	18% (3)	24% (11)	52% (16)	44% (8)
3	35% (6)	36% (16)	32% (10)	39% (7)
4	29% (5)	29% (13)	6% (2)	0% (0)
5	12% (2)	7% (3)	0% (0)	0% (0)
Total no. of sites	17	45	31	18

The results for the recommended Reference Areas (Table 4) are reasonably similar to those for the MCZ sites within each regional project. As with the sites for NG, the reference areas fail to achieve a score of 4 or 5, with almost half the sites (46%) scoring 1. However, given that most reference areas being recommended are sited within rMCZ, this suggests that the quality of evidence for the rRA would be the same as for the rMCZ even if not all literature were cited. This is not always the case, as the overall evidence base for recommending a Marine Conservation Zone is more comprehensive than the part of the data used to recommend a Reference Area for a species-FOCI, for example. Hence it is cautioned that some of the RA assessments may be the result of the RP trying to achieve brevity in their site descriptions.

**Table 4.** Percentage benchmark scores for all reference areas for the Regional projects. Numbers in brackets represent number of sites.

Score (1 low, 5 high)	ISCZ	FS	BS	NG
1	0% (0)	15% (2)	20% (5)	46% (6)
2	36% (5)	8% (1)	32% (8)	31% (4)
3	36% (5)	38% (5)	44% (11)	15% (3)
4	21% (3)	4% (3)	4% (1)	0% (0)
5	7% (1)	15% (2)	0% (0)	0% (0)
Total no. of sites	14	13	25	13

## 4.2 Number of assessments made per site and per reference area

The number of assessments are summarised in Table 5. Relatively few sites and reference areas received only one assessment. There was, however, a difference in assessments for each site between RPs, with ICSZ only receiving up to 2 assessments per site, FS and BS up to 3 and NG up to 4. Nevertheless, given that there is broad agreement in scoring between assessors, the SAP is confident in the assessments, at least at this initial level.

**Table 5.** Number of assessments. Numbers represent the number of sites in relation to the number of assessments.

RPs	ICSZ				FS				BS				NG			
	No. of assessments made															
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
sites assessed	1	15	-	-	5	24	15	-	4	4	22	-			10	
ref areas assessed	2	12	-	-	2	10	1	-	5	18	2	-	-	1	9	4

## 5. Commentary

### 5.1 General comments

The initial assessment shows that Net Gain gets lower scores than the other sites overall, with few highly scoring assessments, and Finding Sanctuary comes out ahead on our evidence assessments. This may reflect where more studies have been done (the South West, especially the coasts, and the offshore deeps, the Irish Sea (focus of much work in recent decades, e.g. Sellafield, eutrophication worries, birds and wind farms). That in itself is useful, but it indicates where more work is needed. It is also likely to reflect the fact that Finding Sanctuary have had much longer to work on their assessment and so should have collated more evidence. The Balanced Seas reports seemed to use considerable stakeholder input, which is not easily assessed (and hence low scoring). Hence the evidence incorporates the background knowledge of the stakeholders involved, their own evidence base and literature but this does not get recorded as citations. The Balanced Seas reports also do state that they are “a description of the site based on extracts from literature held by the Balanced Seas Project and stakeholder correspondence” and that “It does not constitute a complete literature review or ecological description of the site.” So there may be more detailed information that was used (and this may apply to the reports of all the Regional Projects), but the salient point here is that the report(s) do not indicate what that information was, or where to find it.

There are also regional differences in the type of literature available. For example there is more literature on wide-scale ecosystem functioning and nutrient dynamics in the North Sea. There is also extensive ‘commercially obtained’ data for large regions of the North Sea, but it is not clear if the RPs were aware of this information, had access to it, or whether access was denied. None of the projects, for example, referred to the CSEMP (formerly National Marine Monitoring Plan data) although their stakeholders and the providers of the data layers would/should have been aware of this. Finally, there are clear differences in the amounts of records for recreational dive sites (predominantly in the hard substrata, clearer western/south-western areas, and English Channel) than in the more turbid, predominantly soft-substrata for the North Sea and Irish Sea. The SAP were aware of many more biodiversity data for all areas (and did, at times, mention potential sources of information during meetings, in our interim reports and informally to RP staff) and so question whether the Regional Projects were given a sufficiently firm instruction to make sure all their sources were referenced.

5.2 There has been, for all projects, an inadequate review of literature and, in many cases, irrelevant or misleading (for instance, copying characterising species from the biotope descriptions and not therefore specific to the site) literature used. Project staff have not taken advantage of many of the resources available. These include:

- i Marine Nature Conservation Review (MNCR) Benthic Marine Ecosystems volume;
- ii MNCR Regional Summaries;

- iii Reports from surveys commissioned by the SNCBs/nature conservation agencies;
- iv Marine Recorder sightings database (to identify surveys and generate lists of species for each site polygon);
- v Designated taxa spreadsheet used with (ii) to identify species present worthy of particular attention/mention in identifying importance of the site;
- vi Reference to source material rather than reviews.
- vii Clean Seas Environment Monitoring Programme (formerly National Marine Monitoring Programme) data
- viii Environmental statements for aggregate extraction and wind farm areas (which by their nature will be in soft substratum areas but may be unavailable as being commercially confidential or merely difficult to obtain).

5.3 Whilst it is appreciated (via comments that have been made by project team members) that there was very little time to summarise site descriptions from a wide range of references, the work had already been done in publications which the project teams and stakeholders did not seem to be aware of and which were publications that would have had electronic versions for cut-and-paste. It is emphasised that the SAP get the impression that the RP were not given the instructions to focus on recording the evidence base and they would not, therefore, have had the rigorous academic approach (of removing plagiarism and citing all information) familiar to and expected by the SAP members.

5.4 Site characterisations (describing the main characterising species and relating to sources of information) could have been undertaken via the rMCZ polygons in GIS which can be interrogated against Marine Recorder data to identify the surveys that have been undertaken there, the species that have been recorded and, in some instances, the biotopes present. (Marine Recorder is not comprehensive and does not include many of the descriptive surveys in peer-reviewed scientific literature nor does it include the large amount of data provided by Environmental Impact Assessments and the Clean Seas Environment Monitoring Programme.)

5.5 There are very significant differences in the information presented and the style in which it is presented between projects. Standard headings and layout and rules for what maps are used, what sources are considered references, what is capitalized etc. are needed (see point 5.2 above).

5.6 'Proofing' the documents is essential but needs proof-readers who are familiar with scientific discipline in writing and can ensure consistency of style as well as following rules. Again note the SAP comment regarding the need for an academic approach to using sources and that either the RP were unable to do this or had not been given such an instruction.

## **6. Conclusions and recommendations**

- The initial assessment given here shows that there is a lack of consistency in using and citing information, data and other sources amongst, between and within the Regional Projects.
- Overall the scores demonstrate a considerable weakness in the range and use of literature sources presented in the site descriptions of the final regional project reports, as is demonstrated in the specific comments and spreadsheets produced by SAP.
- The Regional Project site descriptions show a lack of attention to detail or a lack of personnel in the Regional Projects with scientific discipline and skills in locating references, generating species and biotope lists, reviewing that information and writing accurately.

- The SAP questions whether the guidance given to the Regional Projects was sufficient in using and referencing their source material, in capturing the wider scientific knowledge of their stakeholders.
- All of the sites for all of the Regional Projects will require an in-depth review of the literature sources used in order for them to reach the standard that will be required.
- However, it is concluded that even when evidence is improved and more accurately recorded, some rMCZs and rRAs will be shown to have little supporting information.



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