The Biodiversity Metric 2.0 – Beta Test Version

Consultation Response

August 2020

1. Background

The Biodiversity Metric 2.0 updates and replaces the original 'Defra' biodiversity metric. It was developed with input from a wide range of environmental NGOs, developers, land managers, Government agencies and other interested parties. Biodiversity Metric 2.0 provides a way of measuring and accounting for biodiversity losses and gains resulting from development or land management change. Biodiversity Metric 2.0 was released as a beta test version in July 2019.

Biodiversity Metric 2.0 uses habitat features derived from the UKHab and EUNIS classification systems as a proxy measure for wider biodiversity. It has not been designed to be used for assessing compensation for impacts upon statutory designated sites or irreplaceable habitats and it does not account for indirect impacts to biodiversity.

Biodiversity Metric 2.0 is intended to work with all terrestrial and intertidal development types. It sits at the heart of the approach to future mandatory biodiversity net gain in England for developments under the Town & Country Planning Act, as set out in the current Environment Bill. It is therefore important that the metric and associated guidance and tool is as ecologically robust and easy to use as possible.

2. The Consultation

The consultation period on the beta version of the Biodiversity Metric 2.0 and its supporting documentation started on 29 July 2019 and closed on 29 February 2020.

Intertidal habitats were incorporated into the published calculator in December 2019 and separate user guide and technical guidance released alongside. The 'Connectivity' calculator tool, and a Priority Habitat 'reference' data set for use with this, was also released at that time.

The consultation sought feedback via an online questionnaire on the Defra Consultation Hub. Utilising structured questions, users were asked for their views on how the metric works, problems they encountered and the ease of use of it and the supporting guidance. Users were also provided with an opportunity to send separate written responses to the consultation.

The documents published as part of the consultation comprised:

- Biodiversity Metric 2.0: Calculation Tool (Excel spreadsheet) (updated December 2019)
- Biodiversity Metric 2.0: Calculation Tool: Short Guide
- Biodiversity Metric 2.0: User Guide (detailed)
- Biodiversity Metric 2.0: Technical Supplement (which includes habitat condition assessments)
- Biodiversity Metric 2.0: Technical Guidance for Intertidal Habitats (published December 2019)
- Biodiversity Metric 2.0: User Guide Addendum – Intertidal Habitats (published December 2019)
- Biodiversity Metric 2.0: Connectivity Tool Guidance (published December 2019)
- Biodiversity Metric Connectivity Tool (BMCT) 2.0 – Auto Install Version (published December 2019)
- Biodiversity Metric Connectivity Tool (BMCT) 2.0 – Manual Install Version (published December 2019)

- Reference Habitat Folder – for use with the Biodiversity Metric Connectivity Tool (published December 2019)

3. Reponses received

Throughout the period of the consultation the Biodiversity Metric 2.0 calculator was downloaded over 7,000 times. We received a total of 130 responses - 114 online responses and a further 16 direct by email. See figure 1 below.

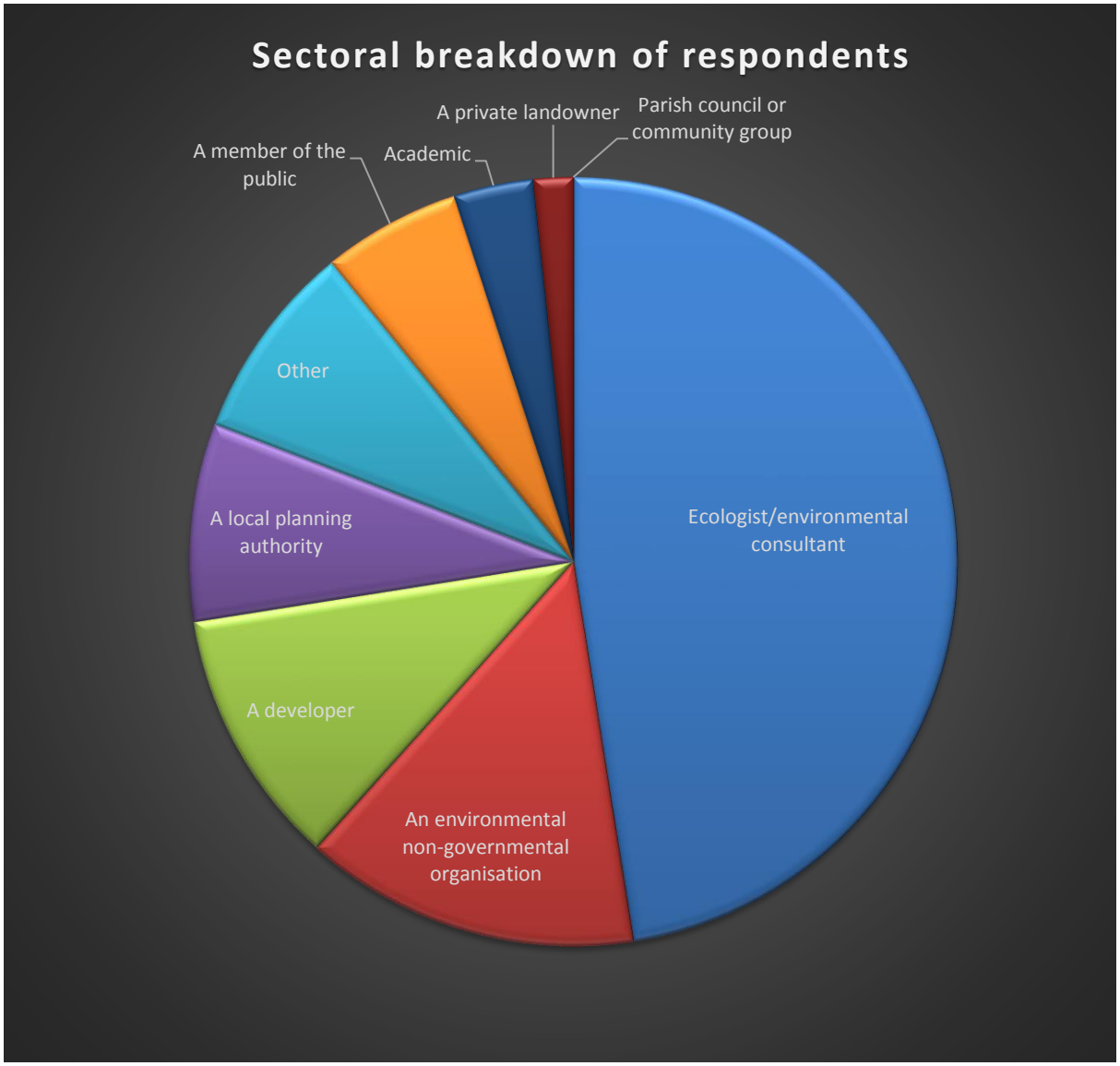

Fig. 1. Distribution of respondents across sectors

In addition to the online consultation, useful feedback was also received from a series of workshops for Local Planning Authorities, reaching 200 people from 102 authorities, discussions with the Seabed Users Developer Group (SUDG) and additional ad-hoc workshops, meetings and presentations. Our existing stakeholder advisory 'Sounding Board' of individuals from Local Planning Authorities, NGOs and Ecological consultancies also helped to test the metric on 'live' projects and provide direct feedback.

The response that follows draws on analysis of all responses received. It highlights the main issues raised but is NOT intended as an exhaustive commentary on every response received. When the metric is re-released in its final version this winter we will publish an accompanying paper that details every change made to the metric compared to the beta version issued for consultation.

We are grateful to everyone who took the time to respond and share their experience, views and suggestions.

Since the close of the consultation we have also undertaken an exhaustive scenario testing exercise to ensure consistency across the metric scores to supplement the feedback received.

4. Metric review and proposed changes

Analysis of the consultation responses identified a number of common themes as well as some specific points about elements of the metric calculator and supporting documentation. We have summarised these in the following sections and explained what action we have taken to address them, prior to final publication of the metric this coming winter. They are grouped under the following categories, although there is inevitably overlap between these:

- Metric scores – including specific concerns regarding woodland and intertidal habitats
- Metric components – accelerated succession and ecological connectivity
- Calculator use
- Guidance
- Condition assessment

The following sections set out in more detail the points raised through the consultation and our response.

4.1 Metric scores

Biodiversity Metric 2.0 takes into account the relative ease or otherwise of creating or enhancing habitats. The metric starts from the premise that there is a greater likelihood of securing a good ecological outcome by enhancing an existing habitat as opposed to creating new habitat from scratch. It also recognises that some habitats are inherently more difficult to successfully establish than others, especially those of high or very high distinctiveness. The metric also seeks to reinforce the mitigation hierarchy in ascribing appropriate baseline values based on a habitats distinctiveness.

The majority of comments received related to either the scores generated in the metric or to the metric calculator tool itself. There were particular areas of concern relating to the low scores generated for a range of high distinctiveness habitats and also across certain broad habitat types, e.g. woodland and intertidal habitats. Conversely, there was concern regarding the relatively high scores generated by some low or medium distinctiveness habitats.

In response to this we used the calculator to generate, by habitat, all possible outcomes across all possible hypothetical scenarios. We then undertook a frequency distribution analysis of the resulting Biodiversity unit/hectare scores generated for the creation and enhancement of all habitats in all condition states across the range of strategic significance and connectivity values. This enabled us to assess the range of scores (min to max) that can be delivered by a specific habitat in any given situation and to identify 'outliers' that score particularly high or low or have a very narrow range of scores. This frequency analysis focussed in particular on:

- Any habitats with an output < 2 BU/Ha for all scenarios
- Low distinctiveness habitats scoring > 7 BU/Ha
- Medium distinctiveness habitats scoring > 10 BU/Ha
- High distinctiveness habitats scoring < 4 BU/Ha
- The top ten scoring habitats

We also considered the Difficulty and Time to Target Condition for the creation of the habitats meeting these criteria and will revise these where appropriate or, in some cases, fix the condition. This work is in progress and a final table detailing all of the changes made will be published with the revised metric and guidance later this year.

The main points raised through the consultation relating to metric scores are set out in Table 1 below

Table 1 – Metric Scores

Feedback theme	**Summary of comment/issue**	**Proposed action**
High Distinctiveness habitats	Scores given to high Distinctiveness habitats discourage creation of these habitats in favour of those of medium and low Distinctiveness which generate significantly more units for creation. The scoring makes them too expensive to deliver?	We have undertaken a comprehensive review of Difficulty and Time to Target condition for all habitats. This will enable scores to be adjusted, where there is evidence to support this, when the metric is re-released in its final version later this year.
Time to Target Condition	Comments were received relating to the Time to Target Condition for a number of habitats	We are undertaking a comprehensive review of Time to Target condition for all habitats, particularly those where particularly high or low scores are generated. This will enable scores to be adjusted, where there is evidence to support this, in the final version.
Time to Target Condition - creation	Some responses stated that Time to Target Condition for certain habitats was too long and it is possible to deliver these in a shorter timescale.	We have reviewed the Time to Target Condition and, in some instances, have revised these where evidence has been provided. We will continue to keep time to target condition under review for future metric updates.
Broad habitat types highlighted as being of particular concern	Consultation feedback indicated particular concern in relation to a limited number of broad habitat types and whether the metric was adequately capturing their biodiversity value (woodland) or ascribing too great a level of difficulty for their creation/enhancement (intertidal).	<u>Woodland</u> We have revised the Difficulty and Time to Target Condition for creation of "other" broadleaved, mixed and conifer woodland to better reflect the reality of creating these woodland types. <u>Intertidal</u> Scenarios that involved intertidal habitats were examined in the same way as the terrestrial and coastal habitats. This led to changes in some Distinctiveness scores, some of the Time to Target Condition scores (both under creation and restoration) and also some of the Difficulty scores (and what factors contribute to Difficulty intertidally) for certain habitats. We have also adjusted the trading rules to allow for intertidal habitat to be created on terrestrial habitat (see table 4).

4.2 Metric Components

The consultation sought specific feedback on certain aspects of the metric that were proposed as two new additions to the earlier 'Defra' biodiversity metric, in particular accelerated succession and ecological connectivity. The former was intended to better account for the value of woodlands within the metric and the latter provided a mechanism for allowing an ecological connectivity value to be calculated for high or very high distinctiveness habitats. Table 2 below summarises the consultation feedback and our response in the light of the feedback received.

Table 2: Accelerated Succession & Ecological Connectivity

Feedback theme	Summary of comment/issue	Proposed action
Accelerated Succession	There was a mixed response to this approach to addressing issues with habitats that take a long time to create or where one habitat is changing to another, specifically in woodland creation. It was also apparent that there was confusion regarding the concept and its application. Less than 20% of respondents thought that it addressed the problem.	We have taken the decision to remove Accelerated Succession from the metric. This is partly due to the feedback received but also because we have revised the Difficulty and Time to Target Condition for creation of "other" broadleaved, mixed and conifer woodland to better reflect the reality of creating these woodland types. The resulting scores are comparable with those that would have been achieved previously through using Accelerated Succession and so have made the need to use it redundant.
Ecological Connectivity	The Ecological Connectivity calculator tool and an accompanying priority habitat reference data set was released six months into the consultation period. As a consequence there was less time for testing during the consultation period so little feedback was received.	Post-consultation we sought the views of users and our external "Sounding Board" and concluded that the connectivity tool was not being used. Those who have used the tool have found it unreliable to load and complicated to use. In addition it is only able to consider the connectivity of high and very high distinctness habitats Accordingly, we have taken the decision to fix connectivity at Low (x1 multiplier) for all habitats until the metric is next reviewed.

4.3 Metric Calculator Use

Along with the metric scores this was the most common point raised by respondents to the consultation. Consultees raised a number of points including easing and streamlining data entry, apparent errors in calculation, ability for the Time to Target Condition to be adjusted and dealing with temporary losses and phased developments through the calculator.

Table 3 below sets out some of the common responses relating to the calculator that were received together with our response.

Table 3 – Metric Calculator

Feedback theme	Summary of comment/issue	Proposed action
Errors within calculator	A number of errors and glitches were identified, for example with the formulae in certain cells and the	All errors identified will be fixed and corrected when the metric is re-released in its final version this winter.

	translation and display of data in the results.	
Habitat banking - habitats created in advance of development	Requests to amend Time to Target Condition in situations where 'compensatory' habitat already created or in process of creation (i.e. through habitat banking)	We proposed to include an option within the final Metric that will enable Time to Target Condition to be reduced by the relevant number of years to take account of habitats created ahead of a development.
Phased development	Requests to enable delayed commencement of delivery of 'compensatory' habitats where developments are phased over many years. (e.g. minerals sites and large scale housing).	We proposed to include an option within the revised metric that will enable Time to Target Condition to be adjusted by the relevant number of years to take account of delays to the commencement of habitat creation resulting from phased development.
Temporary losses	How to account for temporary losses within the calculator?	We will provide guidance on what should be considered a 'temporary' loss and how to account for it within the calculator.
Overlap of 'area' and 'linear' habitats	Two related issues were highlighted: i) How to account for linear habitats within a site where they affect the area habitat measurements (possible issue with direct GIS data entry). ii) How to account for creation of new linear features such as river channels which reduce the remaining area habitat.	Revisions to guidance will provide a clear explanation and a worked example.
Data entry - rounding to two decimal places and data entry from GIS	Data entry from detailed, computer based site surveys can cause errors due to discrepancies in area measures resulting from the need to round to two decimal places. For large sites there can be many habitat parcels, sometimes more than the metric is able to deal with and entry takes a long time. Would it be possible to import data directly from GIS?	We are developing an option to allow for data entry directly from GIS which will be included with the revised metric. However, rounding to two decimal places will still be required for manual data input.
Metric for small sites	Request for 'simplified' calculator for 'minor' developments (60% of respondents said this would be useful).	We are currently developing a Small Sites Metric and intend to publish this for beta testing alongside the final publication of this metric.
Web or app based platform	Some respondents highlighted issues with the Excel format and asked if a web or app based calculator could be made available.	We recognise that making the metric calculator available as an app could be a useful and will keep this under review. However, the winter release of the final version of the metric calculator will be in Excel format.
Strategic Significance	More clarity is required regarding how to determine the Strategic Significance of an area or habitat.	This will be better explained within the revised guidance.
Locally significant habitats	How can locally distinctive/important habitats be accounted for in the metric - can they be added to the list of available habitats? E.g. Cornish Hedges	The metric is not able to account for local variations in habitats. Locally important habitats can be highlighted using the strategic significance feature (see above).

User friendliness	There were a range of comments relating to ease of use and how this could be improved. These included explaining error messages more clearly to enable users to identify where a problem has occurred.	We are currently reviewing these suggestions and will, where possible within the constraints of the existing excel calculator, make changes to improve the user experience.
Further improvements to user experience	There were a number of other useful suggestions regarding how the metric could be improved that we are not able to progress within the timeframe of the current revision.	We have noted these and will consider incorporating them in any future revision.

4.4 Guidance

The existing User Guides and Technical Supplements will all be revised to take account of the changes outlined in this report. We will also take this opportunity to combine the separate guidance for intertidal habitats that was published in December 2019 with the main guidance into a single User Guide and Technical Supplement.

From the feedback received it is apparent that some of the principles and concepts inherent within the metric are not sufficiently well articulated within the guidance so we will ensure that further clarity is provided in the revised documentation. In addition we intend to provide case studies or worked examples to illustrate some of the more common scenarios that users have found challenging to put through the metric. Table 4 below summarises some of the main points raised and our response

Table 4 - Guidance

Feedback theme	**Summary of comment/issue**	**Proposed action**
Consistency in terminology	There needs to be consistency in the terminology used between the metric and the guidance.	This will be checked as part of the guidance review and updating.
Glossary	Not all terms used are explained.	Comprehensive review of guidance. We propose to ensure that all key concepts and assumptions are clearly explained and will provide an expanded glossary.
Things missing or not clearly explained	Need to review all guidance to ensure all concepts and assumptions are clearly explained. There also needs to be consistency in terminology used between the metric and the guidance documents.	Comprehensive review of guidance. The existing User Guides and Technical Supplements will all be revised to take account of the changes outlined in this report. We will take this opportunity to ensure that the guidance is revised to clearly explain terms used and address all of these issues.
Worked examples	Provide case studies/worked examples/Q&A to illustrate specific scenarios which have caused difficulties when attempting to use the metric calculator.	A selection of worked examples will be proved, either as an annex to the revised guidance or a separate document.
Species	Questions were asked relating to how to deal with species within the metric?	The metric is based upon habitat features and does not directly consider species. These should continue to be addressed through existing policy and legislation. We will ensure this is explained within the revised guidance.

Trading rules	For intertidal habitat only the trading rules should be flexed to allow for intertidal habitat to be created on terrestrial habitat.	We agree that there are scenarios where it is ecologically appropriate to allow for the creation of intertidal habitats on low or moderate distinctiveness terrestrial habitats e.g. managed re-alignment scenarios. This will be reflected in the final metric and guidance.
Rewilding/natural succession	Some respondents asked how rewilding and natural succession should be dealt with.	We will provide guidance regarding how re-wilding/natural succession should be dealt with in the metric.

4.5 Condition Assessment

The Condition Assessment is based upon the UK Habitat Classification (UKHab) and EUNIS classifications (for intertidal habitats) and a series of Habitat Condition Sheets for the 'area' habitats with separate assessments for 'Hedgerows & lines of trees' and 'Rivers & streams'.

Feedback regarding the Condition Assessment sheets was split across a number of themes:

- The definition of habitat types
- Inconsistency of approach across different condition sheets
- Ambiguity of criteria, indicators and pass or fail requirements
- Rivers & streams condition assessment

We are reviewing the habitat condition sheets for all area-based habitats to increase consistency between them and to give greater clarity regarding what is required in order to meet specific criteria. Where the condition sheets clearly did not work for certain habitat we will produce new condition assessment sheets for them. These will be subject to testing and limited field trials this summer prior to publishing, along with the revised metric, this winter. Table 5 below sets out a summary of the comments received and our response for Condition Assessments.

Table 5: Condition Assessments

Feedback theme	**Summary of comment/issue**	**Proposed action**
UK Hab/habitat definitions	Use of UKHab- many respondents are less familiar with UKHab than other classification systems and some requested consideration of using other classification systems others such as Phase 1.	We do not propose any change. The calculator contains within it a 'translation tool' to facilitate translation between Phase 1 and UKHab. UKHab provides good coverage of urban habitats which will be important in a planning context. We will aim to provide further clarity regarding habitat definitions in the revised guidance.
Ambiguity of criteria	Clarity of habitat and condition definitions and methodology - ambiguity of criteria and pass or fail requirements, inconsistency in application of indicators, etc.	We will revise the habitat condition sheets for all area-based habitats to increase consistency between them and to give greater clarity regarding what is required in order to meet specific criteria.

Rivers & streams	Use of MORPH methodology, Condition Assessment for rivers is too complicated/time consuming and requires specialist training.	We recognise that this Condition Assessment is different to that for other habitats but it has been tested and found reasonable as part of a wider site habitat survey. Training will still be required because of the nature of this type of habitat survey but it is proportionate and is based upon a 'citizen-science' approach.

5 Revision and publication

We are currently working through the final detail of the proposed changes to the metric and accompanying guidance as outlined above.

Our intention is to publish the revised metric calculator, updated condition assessments and guidance documents in December 2020.

A detailed list of ALL changes made from the beta version of the Biodiversity Metric 2.0 will be published alongside the revised metric to enable users to see where changes have been made.

We will also publish a beta version of the Small Sites Metric for consultation at the same time.