



Intergovernmental conference for the development of a new international legally binding instrument for the conservation and sustainable use of biodiversity beyond national jurisdiction under the United Nations Convention for the Law of the Sea, second session.

**United Nations, New York
27 March 2019**

Statement delivered by the Deep Ocean Stewardship Initiative

Re: Marine Genetic Resources, agenda item 6

3.1. Scope and 3.2. Access

Thank you Madam Facilitator, for giving DOSI the floor. We would like to provide a scientific perspective on the issues of 'scope' and 'access' regarding marine genetic resources.

Turning first to material scope, as outlined in section 3.1. Working closely with scientists could help to ensure clarity and a common understanding of the meaning of terms. For example, *in situ* and *ex situ* are commonly understood in the scientific community. *In silico*, however, may require greater clarification as this term is not commonly used in the scientific community.

In terms of the scope of what could be considered to be *ex situ* as well as associated data and information:

- *Ex situ* MGR, could encompass a wide range of sample types – from whole organisms, to environmental samples of water or sediments that *may* contain organisms – that are preserved to allow '*utilisation*' of an MGR.
- MGR data could encompass all information associated with **or** extracted from a physical MGR sample, including any associated genetic sequence data- from raw sequence information, to downstream interpretations. Relevant data could also include the following about a sample: current identification or taxonomy; location and storage method; occurrence data, or where, when and how the sample was collected, associated environmental data; and derived sample information, for example on subsamples and DNA extractions isolated from a sample.

Turning now to the question of access, noting the reference to free and open access to marine genetic resources *ex situ* and access to information and data in 3.2.1 *Option II subparagraphs (6) and (7)*. Open access is best practice in science. Scientific research institutions, museums and biorepositories, open access publications, and databases already enable access to MGR samples and data.

Firstly considering sample collections: the research community requires archiving and maintaining collections for widest possible current and future use, supporting reproducibility of research and reducing repeat collection. Biorepositories such as museums are key suppliers of MGR, and will ultimately lead in standardising best-practice procedures for curation and tracking of collections to enable open access. Directories of available molecular collections are viewable via systems such as the Global Genome Biodiversity Network. The role and needs of biorepositories in enabling access and benefit-sharing should be recognised and supported.

Secondly, considering data: publication of data in open access databases is established practice in the scientific community. For example genetic data is published in GenBank, taxonomic data in the World Register of Marine Species (WoRMS); and species occurrence and distribution data in OBIS, the Ocean Biogeographic Information System (including the OBIS deep-sea node - which provides a focus for the deep-sea research community). There



are ongoing efforts for greater systems integration and interoperability alongside a broader cultural shift towards openness in science. For example, in greater usage of common data standards and standardisation frameworks which play a crucial role to ensure that data is FAIR - Findable, Accessible, Interoperable and Reusable. In terms of data reuse, rigorous data standardisation is essential to monitoring applications and requires cooperation within existing scientific coordination frameworks.

Currently however, not all data are open access. Barriers include: the publication of data in non-standardised formats, or in non-open access publications, often due to a lack of awareness or human, financial and technological resource constraints. Several actors, including journals and research funding agencies, will have roles to play in overcoming barriers to open access. Strengthening the international framework for open access including through: (i) supporting for entities and networks that develop and encourage usage of data standards; (ii) enhancing interoperability for existing data-systems and biorepositories; and (iii) addressing gaps in data management capacity - would not only promote access to MGR but provide flow-on benefits for science and capacity building.

Thank you Madam Facilitator.

For further information, please see the DOSI policy brief at <https://bit.ly/2HKrlyd>