

# Implementing a ‘Sufficient Information Requirement’ for Deep-sea Mining

This policy brief proposes incorporation of a ‘sufficient information’ requirement in the ISA’s Mining Code to improve the governance of deep-sea mining (DSM) in the Area. A ‘sufficient information’ requirement is included in other multilateral treaties. In the context of DSM, this requirement would ensure the ISA can make an informed choice on a given DSM application.

## What is ‘sufficient information’?

‘Sufficient information’ establishes a minimum threshold for scientific, technical, and cultural information needed to make informed decisions and ensure adequate environmental protections. An assessment of the sufficiency of information at the ISA would evaluate whether the data available to ISA decision-makers can provide a low, moderate, or high degree of confidence in the predicted effects of proposed DSM activities. The level of confidence is important to inform management decisions taken to mitigate those effects.

In the context of DSM, the sufficiency requirement necessitates a thorough understanding of ecological parameters across both time and space. This understanding may require scientific data gathered over many years on specific marine environments to capture ecological cycles, oceanographic oscillations and variability, and medium- and long-term trends. It also demands statistically robust monitoring programs and standardized indicators with sufficient power to enable meaningful comparisons across different sites. Scientific investigations and data collection will need to extend beyond the mining sites to include untouched sites that are representative of the contract area and adjacent areas.

## Why is 'sufficient information' important for DSM governance?

The ISA is operating in a situation of scientific knowledge gaps about deep sea ecosystems and biodiversity, and yet is faced with making mining decisions with consequences that are effectively irreversible on human timescales. Requiring 'sufficient information' within ISA decision-making is a way to acknowledge and address some of those uncertainties. Insufficient information correlates with higher risk of poor decisions being taken, and hence sub-optimal outcomes for humankind and marine environments now and into the future.

The 2024 draft negotiating text for the ISA's Exploitation Regulations already includes several references to 'sufficient information', including:

- *DR 15(2)(e) There is inadequate, insufficient or substandard environmental baseline information...*
- *DR 44(1)(b) Apply the Best Available Techniques and Best Environmental Practices [and ensure the availability of sufficient information]*
- *DR 48(3)(a) Detail the results of the Environmental Impact Assessment including the methodology used, [the sufficiency of information] and evaluation of the identified Environmental Impacts.*

A 'sufficient information' requirement should also be added to the following regulations to ensure the ISA can properly consider the sufficiency of available information in its decision-making.

- *DR 47 - Environmental Impact Assessment*
  - *Add a new paragraph (2)(f): an assessment of the sufficiency of information to allow prior assessments of, and informed judgments about, the possible impacts of the proposed activities on the marine environment.*
- *Add DR 13.ALT(9)(c)(i)bis: whether the Plan of Work demonstrates that: .... (i)bis it is based on sufficient information to allow prior assessments of, and informed judgments about, the possible impacts of the proposed activities on the marine environment.*

'Sufficient information' is crucial for DSM contract decisions by the Council, and necessary to develop reliable environmental baselines, statistically robust monitoring programs, and accurate models to forecast impacts of DSM activities.

## Is the 'sufficient information' requirement a new concept?

The sufficient information requirement is an important element of responsible environmental governance and has been included in other multilateral treaties. For example, explicit language on the sufficient information requirement is included in the Madrid Protocol on Environmental Protection to the Antarctic Treaty and the Convention for the Conservation of Antarctic Marine Living Resources. Other treaties, such as the recent BBNJ Agreement, place significant emphasis on the importance of scientific information and cultural knowledge.

## How would a 'sufficient information' requirement improve protection of marine environments?

Better information improves decision-making about activities with potential to harm the marine environment. An assessment of the degree of sufficiency of information enables the ISA to tailor its management decision appropriately. The ISA should require essential data gaps to be filled before permitting any potentially irreversible and environmentally harmful activities to proceed, or may set extremely precautionary measures on operations until such time as more data is collected and understanding is improved. Importantly, a sufficient information requirement does not equate to conclusive evidence, but requires that there be adequate information available to permit the ISA to make an informed decision, and that the ISA understands the degree of information inadequacy or uncertainty, when making its decision.

'Sufficient information' is also relevant on a strategic and regional level. It is vital to understanding the effects of mining activities in the marine environment and identifying vulnerable species and habitats in the deep sea. It is therefore important for the achievement of effective Regional Environmental Management Plans (REMPs). Requiring sufficient information would allow the ISA to better evaluate the cumulative effects of DSM. It would also improve the ISA's ability to model and predict synergistic effects with climate change and other marine stressors. The higher the quality of the information provided, the more effectively the ISA can develop strategies to mitigate environmental impacts of mining activities.

## Why should the ISA require 'sufficient information' in the Mining Code?

Adopting a 'sufficient information' requirement acknowledges the challenges posed by the deep-sea environment. Establishing a clear standard for environmental knowledge enables the ISA to deliver on its mandate for ocean protection, promotion of scientific research, and responsible management of global commons.

A 'sufficient information' requirement encourages advances in science to better understand the deep ocean. It could provide the Legal and Technical Commission with clear guidance for reviewing contractor data and encourage the ISA to require contractors to supplement knowledge gaps, or to delay or suspend DSM activities if information is deemed inadequate to ensure effective protection of the marine environment.

A legal requirement for the ISA to consider the degree of scientific information available could also encourage more independent scientific review and advance cooperation with marine scientists and thereby help achieve one of the objectives of UNCLOS (and the BBNJ Agreement).

## What is the difference between 'best available scientific information' and 'sufficient information'?

'Best available scientific information' is a standard applied in the draft ISA exploitation regulations (and other legal instruments). It refers to the most up-to-date knowledge that can be reasonably obtained by scientists and ISA contractors. In contrast, 'sufficient information' refers to the level of knowledge required to make informed regulatory and management decisions and ensure adequate environmental protection. The 'best available' information may not always be 'sufficient' to predict long-term impacts of DSM activities or protect seabed environments effectively. Determining whether sufficient information is available is a separate and prior consideration to the requirements that ISA contractors use the best available scientific information.

## What would a ‘sufficient information’ requirement mean for ISA contractors and ISA sponsoring states?

A ‘sufficient information’ requirement in ISA regulations would clarify legal obligations regarding data collection and environmental monitoring for both ISA sponsoring states and ISA contractors. Improving the transparency and predictability of data levels required by the ISA, places ISA contractors and sponsoring states on a level playing field and reduces uncertainty. Requirements that sponsoring states verify the sufficiency of contractors’ environmental data before endorsing DSM applications could also improve public transparency and the legitimacy of ISA decisions.

## What would a ‘sufficient information’ requirement mean for the ISA and the scientific community?

The ‘sufficient information’ requirement would provide a safeguard to ensure the ISA would not have to approve a mining application without sufficient information to determine the environmental risks of the proposed mining operation. It would also help ISA member states to ensure they are setting high environmental standards, and help implement the precautionary approach to DSM by tailoring decisions and measures according to whether the information provided fulfills the sufficiency requirement or not.

To implement the ‘sufficient information’ requirement, the ISA would have to work closely with the scientific community in order to determine whether the ‘sufficient information’ requirement is met by individual EIAs and is adequately integrated in the REMPs.

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