ASSESSING THE IMPACTS OF SEABED MINERAL EXTRACTION

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RISING DEMAND FOR NATURAL RESOURCES

Population growth and infrastructure development increase the need for raw materials and metals for new technologies.
FERROMANGANESE CONCRETIONS
HOW TO ESTIMATE IMPACTS PRIOR TO EXPLOITATION?
Kaikkonen et al. 2018
HOW ARE IMPACTS ADDRESSED?

Empirical evidence

Experimental studies

Parallel industries

Review of the used methods and documented impacts
PRESSURE ⟷ STATE CHANGE

By using the causal chains, further analyses on the associated risks may be implemented.
ENVIRONMENTAL RISK ASSESSMENT

Take into consideration all possible outcomes and their probabilities.
KNOWLEDGE GAPS Implications for environmental risk assessments
ROLE AS HABITAT
CONCRETION DISTRIBUTION

SPATIAL REPRESENTATIVITY

ASSOCIATED ORGANISMS

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ROLE AS HABITAT

ECOLOGICAL FUNCTIONS
INTEGRATING ECOSYSTEM SERVICES INTO THE IMPACT ASSESSMENT

Habitat characteristics

Ecosystem services

Valuation & Management
RISK ASSESSMENT TO SUPPORT STRATEGIC DECISION MAKING IN MARINE GOVERNANCE
IMPLICATIONS FOR A COMPREHENSIVE IMPACT ASSESSMENT

Lacking data is compromising assessments

Causal relationships between pressures and impacts

Integrating ecosystem services in the impact assessment

Consider uncertainty

Kaikkonen et al. 2018
Assessing the impacts of seabed mineral extraction in the deep sea and coastal marine environments: Current methods and recommendations for environmental risk assessment

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