# Philosophy of Deep Sea Mining

By Espen D. Stabell (Supervisors: Siri Granum Carson and Bjørn Kåre Myskja)

*Uncertainty is everywhere. Life is uncertain. Why care about uncertainties on the ocean floor?*

Uncertainty is a part of everyday life. We never know exactly what our actions lead to. However, most of the time we have fair knowledge about possible outcomes and their likelihood. When crossing the street, or driving a car, we rely on past experiences: we've done it before, and know that if we take the necessary precautions – looking out for approaching cars, wearing a seatbelt etc. – it will most likely go just fine.

In the case of deep sea mining, as in most cases involving the use of new technologies in new environments, things are very different. Some of the risks are known. We know that deep sea ecosystems may be negatively affected, and that loss of biodiversity may be inevitable. However, there are considerable uncertainties related to the long-term impacts of these events. There might be catastrophic impacts which we do not know about – and probably will not know about before they materialize. In short, we lack the knowledge that would enable us to predict outcomes in a scientifically sound manner. We are in a state of what can be called "predictive uncertainty".

Another form of uncertainty adds to the problem. Even though we know some possible outcomes, it can be very difficult to give them a sound ethical evaluation. For example, if we know that one outcome will be that a habitat is destroyed, making a certain species extinct: should we place more weight on the importance this has for us (it may have none, that we know about), or on the "intrinsic value" of the habitat and its life-forms, i.e. the value they have independent of their usefulness to us? The choice we make here matters, because it will affect the way we evaluate the risk situation. If we do not take into account intrinsic value, then the risk will be considered smaller than if we did, given that the risk to us is the same. This form of uncertainty I call "evaluative uncertainty".

A central claim in my project is that it will be unwise – and unethical – to ignore these uncertainties when considering the risks and benefits of deep sea mining. The contribution of my project to the Deep Sea Mining pilot will consist in a detailed analysis of both predictive and evaluative uncertainty. My hope is that the knowledge produced will provide decision-makers on deep sea mining and similar activities with a better foundation for making responsible decisions in the face of uncertainty.