MIDAS MANAGING IMPACTS OF DEEP SEA RESOURCE EXPLOITATION

Report from the first MIDAS Science-Policy Panel meeting

Meeting held on 28 November 2014 at the European Parliament

The purpose of the MIDAS Science-Policy Panel is to establish an ongoing dialogue between the MIDAS community and stakeholders in order to link research and policy, and to provide policymakers and stakeholders with sound and relevant scientific knowledge in support of policy developments.

MIDAS plans to convene a Science-Policy Panel annually from 2014-2016. The attendees at each panel meeting will include senior policymakers, stakeholders from industry and NGOs, representatives of international organisations, and leading scientists. The objective is to ensure that MIDAS results are brought promptly to the attention of policy makers in a forum where they can be discussed with all interested parties. Ultimately, the aim is to facilitate open discussions on the development of policy to accommodate deep-sea exploitation whilst maintaining good environmental status.

The first MIDAS Science-Policy Panel meeting was held in the European Parliament on 28 November 2014. Of approximately 35 invitees, 29 people attended the meeting (see list of participants in Annex II). The objectives of the first meeting of the SPP were to present the objectives of the MIDAS project and some of the results from the first year of work, followed by open discussions on key issues. The meeting agenda is given in Annex I.

Following a welcome by Prof. Philip Weaver, the MIDAS project coordinator, meeting participants were asked to identify specific issues or questions related to deep-sea mining that they felt MIDAS could help address. These issues included:

- Can Environmental Impact Assessment (EIA) be carried out for areas affected by deep-sea mining activities?
- Can we determine how an Environmental Management Plan (EMP) can be designed, and how it can be implemented?
- How can we make the science-society link effective?
- What precautionary steps can mining companies take to avoid lasting environmental damage in the deep sea?
- What does the precautionary principle look like for deep-sea mining?
- What are the potential impacts on species in marine protected areas?
- How can we establish sound baselines against which to measure impacts?
- What are the differences in the response of various deep-sea organisms to disturbance
- What scientific information can or can't be translated into management plans?
- Can deep-sea mining really be carried out in a sustainable way?
- How can we help industry design mining plans with environmental priorities?
- Can MIDAS results input to industry's exploration strategy and baseline monitoring?
- What do we really understand about the environmental risks of deep-sea mining?
- How will science results feed into decision making?

- Is there a desire from industry and regulatory bodies to do right by the ocean rather than simply go through a tick-box exercise?
- How much more environmentally costly is deep-sea mining going to be compared to alternative sources of raw materials?
- Is it possible to develop a European approach to deep-sea issues (for example, like the ESA remit for space)?

A 'rolling presentation' of the various aspects of the MIDAS project was presented by a team of scientists involved in the research, followed by a question and answer session:

Phil Weaver, MIDAS Coordinator
Introduction to MIDAS and overview of project objectives

Andrew Dale, Scottish Association of Marine Science
Modelling of sediment plumes arising from deep-sea mining activity

Sven Thatje, University of Southampton
Ecotoxicological effects on deep-sea ecosystems

Ana Colaço, Instituto do Mar/University of the Azores
Impacts on ecosystem connectivity

Pedro Martinez, DZMB / Senckenberg Institute
Ecosystem resilience and recovery

Ann Vanreusel, University of Gent
Measuring ecosystem functioning and services

Kevin Murphy, Environmental Resources Management Ltd
Translation of science results to industry best practice

Issues discussed in the subsequent Q&A session included how gaps in our knowledge of the deep-sea environment might be addressed by MIDAS, including the use of suitable proxies and key indicator species, and the problem of suitable timescales; how cumulative impacts on the deep sea will be addressed; what and how MIDAS can contribute to the advancement of ecosystem service valuation; what experimental sites are being used and why. There was considerable interest amongst the participants in the work being done on the modelling of sediment plumes, and a lengthy discussion was also held about the forthcoming 2015 cruise to the DISCOL area.

The afternoon session included a series of presentations from stakeholder groups, where different perspectives on deep-sea mining issues were outlined and then discussed. Speakers included representatives from the deep-sea mining industry, the NGO sector, the European Commission and other interested parties such as the International Marine Minerals Society (IMMS).

DG MARE (represented in this meeting by Stijn Billiet): the Commission is currently developing its policy in this fast-evolving area. Legislation for European waters already

exists. Although it does not apply to areas beyond national jurisdiction, it may give indications about the ambition that Europe would want to see in the governance of the open oceans; Descriptor 6 of the MSFD (seafloor integrity) is particularly relevant. The marine area is now commonly viewed as a resource area; they draw attention to the fact that the G7 is now also discussing how to address deep-sea mining and other deep-sea issues. Resource exploitation is almost inevitable in the deep sea as resources dwindle on land or become less economic to exploit. This serves as a reminder that exploiting the deep sea is related to the limits of the planet's resources.

DG MARE aim to give sound guidance to European companies involved in this sector - they anticipate that the EU will continue its leadership in development of subsea equipment. They also wish to support capacity building in developing countries to help prepare them for future exploitation in their ocean space. In 2014, DG MARE commissioned a stakeholder survey and a comprehensive state of knowledge study on deep-sea mining.

The EC's Raw Materials Initiative aims to provide the mechanism to secure a steady supply of raw materials. Recycling is an important pillar in this, but this strategy acknowledges that recycling will not completely fulfil future demand for raw materials, hence the Commission's interest in deep-sea mining.

DG Environment (represented in this meeting by Guenter Hoermandinger) is currently preparing policy related to deep-sea mining. Legislation for European waters already exists and although it does not apply to areas beyond national jurisdiction, it does give a flavour of how Europe would expect to operate in the open oceans. Descriptor 6 of the MSFD (seafloor integrity) is particularly relevant. The marine area is now commonly viewed as a resource area, and the G7 will look at deep-sea mining and other deep-sea issues as a priority area. Resource exploitation is almost inevitable in the deep sea as resources dwindle on land. However, there is an emerging recognition that going into the deep sea represents the fact that we are approaching the limits of the planet's resources.

The discussion following the presentations touched on the following points:

John Mouat commented that OSPAR has the remit to protect the NE Atlantic, including protected areas that fall under contracted areas. Although OSPAR does not have a formal policy position at the moment, it is now on the agenda and the contracting parties are expressing an interest. David Johnson informed the meeting that a workshop is being planned to address the need for an Environmental Management Plan for the mid-Atlantic ridge. The workshop is a joint effort between MIDAS, DOSI and the ISA, and is being planned for summer 2015 in the Azores. This workshop will be a strategic planning exercise that will apply science to planning.

Matt Gianni highlighted the relevance of the international management of high seas fisheries and related impacts on the seafloor. Mining regulations should be compatible with these as they have taken 10 years to develop. It is important not to develop conflicting standards between the two industries.

Industry representatives indicated that the timeframe for commercial deep-sea mining to start will be dependent on market factors and the development of exploitation regulations by the

ISA. Whilst a firm timeframe for the start of mining is impossible to identify, there was general agreement that it will be several years into the future.

The scientists agreed that in terms of gaining better understanding of i) ecosystem recovery, ii) longevity of mining operation impacts, and iii) natural variation, a timescale of decades was likely to be required.

A European Marine Board expert working group focusing on deep-sea research for societal challenges and policy needs has recently released a letter that gives a first flavour of their recommendations. It is mainly focuses on the need for more basic scientific research, which is backed by industry bodies. However, the Commission has currently shifted its focus to applied research. MEP Ricardo Santos has also written to the Commission about the lack of basic deep-sea research.

The meeting wrapped up with a round-table of final comments. Points raised included:

- Much interest in the MIDAS work on the precautionary principle as applied to deep-sea mining.
- There is a risk that many of the key environmental issues will fall through the cracks due to the number of players involved in this sector
- The message that more basic knowledge about areas of the deep sea has been noted.
- How can contractors be incentivised to work in the APEIs?
- Interest how technology development can help minimise environmental impact, and how technological advances can influence policy decisions and vice versa.
- Interest in how knowledge gaps will be addressed, how transparency issues will be tackled, and how underlying economic drivers affect policy decisions.
- Baseline studies are important and can only be addressed if scientists have better access to contractors' data.
- Good to see that environmental aspects are being taken seriously by the contractors, in particular the issue of ecosystem connectivity.
- The European Commission has a very active discussion on deep-sea mining issues, so MIDAS has a key role to play in providing knowledge in the development of guidance.
- Should consider a science-technology interface meeting so that environmental concerns can be taken into account when designing equipment.
- What role can MIDAS play in the communication to civil society and the press?

Annex I

MIDAS Science-Policy Panel Meeting

Room ASP 1 E 1, European Parliament Altiero Spinelli Building, Brussels

Friday 28 November 2014

09.00	Arrival and coffee
09.30 - 11.00	Overview of the MIDAS project - rolling presentation: *Introduction - Phil Weaver, MIDAS Coordinator* *Modelling of sediment plumes arising from deep-sea mining activity* *Andrew Dale, Scottish Association of Marine Science* *Ecotoxicological effects on deep-sea ecosystems* *Sven Thatje, University of Southampton* *Impacts on ecosystem connectivity* *Ana Colaço, Instituto do Mar/University of the Azores* *Ecosystem resilience and recovery* *Pedro Martinez, DZMB / Senckenberg Institute* *Measuring ecosystem functioning and services* *Ann Vanreusel, University of Gent* *Translation of science results to industry best practice* *Kevin Murphy, Environmental Resources Management Ltd*
11.00 - 11.30	Coffee break
11.30 - 12.30	Question and answer session
12.30 - 13.30	Lunch
13.30 - 15.00	Perspectives from stakeholder groups: *Ralph Spickermann, UK Seabed Resources* *Kris van Nijen, Global Sea Mineral Resources* *Philomene Verlaan, International Marine Minerals Society* *Ann Dom, Seas at Risk* *Bernhard Friess, DG MARE* *Guenter Hoermandinger, DG Environment*
15.00 - 15.30	Coffee break
15.30 - 16.30	Debate on key issues
16.30 - 17.00	Wrap up and meeting close

Annex II: SPP meeting participants

Stijn Billiet	European Commission, DG Maritime Affairs & Fisheries
Ana Teresa Caetano	European Commission, DG Research & Innovation
Ana Camilo	European Parliament, MEP Ricardo Serrão Santos office
Frederico Cardigo	European Parliament, MEP Ricardo Serrão Santos office
Ana Colaço	Instituto do Mar, University of Azores
Andrew Dale	Scottish Association of Marine Science
Ann Dom	Seas At Risk
Nicolas Fournier	Oceana
Matthew Gianni	Gianni Consultancy / Deep Sea Conservation Coalition
Vikki Gunn	MIDAS Project Manager / Seascape Consultants Ltd
Guenter Hoermandinger	European Commission, DG Environment
David Johnson	Seascape Consultants Ltd
Marijana Mance	European Commission, DG Environment
Pedro Martinez Arbizu	DZMB / Senckenberg Institute
John Mouat	OSPAR
Kevin Murphy	Environmental Resources Management Ltd
Margarida Rodrigues	European Parliament, MEP Ricardo Serrão Santos office
Ralph Spickermann	UK Seabed Resources Ltd
Sven Thatje	University of Southampton
Robert van de Ketterij	MTI Holland
Sybille van den Hove	Median SCP
Kris van Nijen	Global Sea Mineral Resources
Ann Vanreusel	University of Gent
Philomene Verlaan	International Marine Minerals Society
Helena Viegas	European Commission, DG Enterprise
Simon Walmsley	WWF International
Phil Weaver	MIDAS Coordinator / Seascape Consultants Ltd
Antje Wittenberg	Bundesanstalt für Geowissenschaften und Rohstoffe (BGR)