



GESAMP

Joint Group of Experts on the
Scientific Aspects of Marine
Environmental Protection

GESAMP 49/4/7

25 August 2022

ENGLISH ONLY

49th Session
Agenda item 4

PLANNING OF GESAMP ACTIVITIES:

**IMPACTS OF WASTES AND OTHER MATTER IN THE MARINE ENVIRONMENT FROM
MINING OPERATIONS, INCLUDING MARINE MINERAL MINING**

Report of the Chair of Working Group 42

1 The Chair of the GESAMP Working Group 42 (WG 42), Tracy Shimmiel attended GESAMP 48, held virtual and organised by the GESAMP office from 6 to 10 September 2021. The WG 42 Chair gave an update on the status of the report “Impacts of wastes and other matter in the marine environment from mining operations, including marine mineral mining”.

2 A final version of the WG 42 report, addressing the first of the Working Group’s Terms of Reference (ToRs, see annex 1) has been reviewed and peer reviewers’ comments addressed. The report was with the GESAMP office for printing and dissemination August 2021.

3 The Secretariat received comments from the ISA, highlighting the fact that the report contained impacts by mine tailings discharge to the deep ocean and deep-sea mining. The ToR’s had been discussed and agreed, however, as this issue is a recurring theme it was agreed that the original peer review report would be split into two reports; Report Vol. A, ‘Impacts of mine tailings waste matter in the marine environment from mining operations’ and Report Vol. B, ‘Impacts of deep sea mining in the marine environment from mining operations’. The report has been separated, with Vol. A near completion, however Vol B. will need some further work as it needs to be updated to ensure it is current and up to date.

4 The Chair has been contacted by the Environment Programme Director for European Academies Science Advisory Council to discuss deep sea mining and enquiring about the report. They are going to consider whether EASAC will undertake work related to deep sea mining and policy.

5 Members of the WG continue to be active in research submissions and cruises, A. Sweetman has undertaken two cruises in the CCZ to gather baseline data at Mn nodule areas with a cruise to the Cook Islands in the coming months. Three members of the group, H. Grant, T. Shimmiel and A. Sweetman are involved in the NERC SMARTX grant which is investigating impacts of nodule mining. The cruise will take place February next year. H. Grant and A. Sweetman will be attending and presenting at the Challenger conference in London, which is taking place at the same time as the GESAMP annual meeting.

6 Following the finalization of the WG 42 reports, the next stage for the WG 42 is a decision on how to progress the next section of the ToRs and to seek funding for the next phase of the work. A discussion with the Technical Secretary of the Lead Agency will be the first step in this process.

Action requested of GESAMP

7 GESAMP is invited to consider the information provided, and in particular, discuss how the working group should progress to deliver the next item/s on the ToR's for WG42 (Annex 1)

ANNEX 1

Terms of reference for GESAMP Working Group 42 on impacts of wastes and other matter in the marine environment from mining operations, including marine mineral mining (WG 42)

Lead Agency: IMO, UN Environment Co-sponsors: tbc
Chairperson: Tracy Shimmield (United Kingdom),
Technical secretary: Andrew Birchenough (IMO)

Members: Bronwen Currie (Namibia), Raymond Nepstad (Norway), Stuart Simpson (Australia), Andrew Sweetman (United Kingdom), Gi Hoon Hong (Republic of Korea), Hannah Grant (United Kingdom)

Terms of reference for WG 42:

The working group on the impacts of wastes and other material in the marine environment from mining operations, including marine mineral mining is requested to undertake a literature review on the following aspects:

1. Identify and provide a better understanding of potential environmental impacts of marine disposal of tailings and associated wastes from land-based mining operations (hereinafter referred to as "mine tailings"), taking into account potential linkages between deep water ecosystems at the disposal site and other (e.g. ecological, biological) resources in the water column. The impacts could include, but are not limited to, those identified in the report of the workshop on mine tailings provided to GESAMP at its last meeting (GESAMP 42/7/1).
2. Review the extent and suitability of baseline assessments (prior to any construction or discharge) conducted to date and identify the key elements for comprehensive surveys of baseline conditions from which abiotic and biotic impacts can be assessed, taking into account the latest detection technologies of marine pollution and its impact to the organisms.
3. Review and identify the best practices in modelling the physical and chemical behaviour of discharged mine tailings (e.g. slurries), including the shearing and upwelling of both the solids and soluble fractions, as well as the significance of tidal dispersion and potential for long-range transport of fine materials, and determine whether existing models are adequate or further development is needed.
4. Review and evaluate the processes of exposure and effect and the pathways for mine tailings disposal operations, including those related to the physical presence of the wastes, exposure to associated contaminants, their accumulation, and the potential effects at community level.
5. Implications arising from the fact that marine organisms normally used for toxicity testing are from upper layers of marine water, not the deep sea.
6. Review and identify physical and ecological models to estimate the recovery processes of deep sea ecosystems around the possible impacted area.
7. Produce a report on the above work under a time frame and any other reporting requirements to be agreed between LC/LP and the GESAMP.

ANNEX 2

Membership of WG 42

Name	Affiliation	Country
Bronwen Currie	Ministry of Fisheries and Marine Resources, Swakopmund	Namibia
Raymond Nepstad	SINTEF	Norway
Hannah Grant	BGS (British Geological Survey)	UK
Stuart Simpson	CSIRO (Commonwealth Scientific and Industrial Research Organization)	Australia
Andrew Sweetman	Heriot Watt University	United Kingdom
Gi Hoon Hong	KIOST (Korea Institute for Ocean Science and Technology)	Republic of Korea
Tracy Shimmiel	Chair of WG 42	United Kingdom
