



GESAMP

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

GESAMP 47/4/4

29 July 2020

ENGLISH ONLY

47th 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 46, hosted by UNDP and DOLAS, New York from 8 to 13 September 2019.

2 The WG 42 Chair gave a presentation to the meeting including an overview on mine tailing placement and deep-sea mining, meetings/conferences that the Group had attended/presented at and 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”.

3 A final draft version of the WG 42 report, addressing the first of the Working Group’s Terms of Reference (ToRs, see annex 1) was sent to the technical secretary for the WG, May 2020, who made some comments and suggested additions, which the Chair is reviewing. Once this is completed, the report will be sent to WG 42 members to carry out a final review. Once this review is completed the report will be returned to the technical secretary to disseminate to the GESAMP Members and external experts for peer review.

4 The Group was very active in the previous year in promoting the work being undertaken by WG 42, however with the current COVID-19 situation a large number of the proposed conferences and workshops have been postponed and therefore there has been significantly less opportunity for publicising the work of the Group.

5 Following the finalization of the WG 42 report, 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 and the current and potential future co-sponsoring UN agencies will be the first step in this process.

6 Three members of the Working Group (see annex 2 for the current WG 42 membership), Tracy Shimmiel, Andrew Sweetman and Bronwen Currie are part of the One Ocean Hub, which brings together partners from the United Kingdom, South Africa, Namibia, Ghana, Fiji and Solomon Islands to tackle issues facing our oceans and the communities. This year we have progressed the work we are doing in the South Pacific with our South Pacific partners. This work includes assessment of the effect of local environmental quality and marine resources status on livelihoods and health of local communities, determining the community effect of land-based activities and marine based activities, such as mining and creating integrated change scenarios based on transdisciplinary assessment of cumulative pressures. This work will feed into and inform the work of WG 42 as it progresses.

7 Dr. Andrew Sweetman is also involved in funded research with Deep Green to deliver a better understanding of the ecology of the deep sea of deep-sea nodule fields and possible impacts from their collection.

Action requested of GESAMP

8 GESAMP is invited to consider the information provided and to take action as appropriate.

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), Cindy Van Dover (United States), James Hein (United States), Stuart Simpson (Australia), Andrew Sweetman (United Kingdom), Gi Hoon Hong (Republic of Korea)

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.

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
Cindy Van Dover	Duke University NC	United States
Hannah Grant	BGS (British Geological Survey)	United Kingdom
James Hein	USGS (US Geological Survey)	United States
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
Andreas Thurner	Columbia University	Canada
Tracy Shimmiel	Chair of WG 42	United Kingdom
