

## Zero Mercury Working Group comments on the draft scientific report of the Open-ended Scientific Group (OESG)

June 2026

The Zero Mercury Working Group<sup>1</sup> appreciates the opportunity to submit comments on the draft scientific report of the Open-Ended Scientific Group (OESG) of the Minamata Convention, as of 10 April 2026.

Further to the comments below, we would like to also bring to the attention of the OESG, [data we provided in 2025](#). We would appreciate that these are considered in the calculations and discussions of the revised OESG scientific report, as relevant.

### 1. 2009, “Mercury in Fish: An Urgent Global Health Concern”

Full report - [https://www.zeromercury.org/wp-content/uploads/2019/02/FULL\\_FISH\\_REPORT\\_FINAL.pdf](https://www.zeromercury.org/wp-content/uploads/2019/02/FULL_FISH_REPORT_FINAL.pdf)

Executive summary in EN, FR, ES, PT, CHI <https://www.zeromercury.org/about-mercury/mercury-in-nature/>

### 2. 2013. Assessing Hair Mercury levels of women of childbearing age in 9 countries

[https://www.zeromercury.org/wp-content/uploads/2019/02/global-hairtest\\_sept27final.pdf](https://www.zeromercury.org/wp-content/uploads/2019/02/global-hairtest_sept27final.pdf)

Available in Spanish from Ecologistas en Accion at:

<http://www.ecologistasenaccion.org/article26617.html> , <http://tinyurl.com/nghjs2b>

### 3. Mercury added skin lightening products campaign (since 2017)

Since 2017 - Reports publishing mercury content in skin lightening creams are available at <https://www.zeromercury.org/mercury-added-skin-lightening-creams-campaign/> and from the ZMWG database <https://www.zeromercury.org/projects/mercury-added-skin-lightening-creams-campaign-database/>

To those above we would further like to add the following three reports which could also be relevant to the work and assessments carried out:

### 4. In December 2012 and in preparation for INC 5, in January 2013, the ZMWG together with Biodiversity Research Institute (BRI), published three reports and organized two Global Webinars.

- i. [Biodiversity Research Institute, Mercury in the Global Environment, Patterns of Global Seafood Mercury Concentrations and their Relationship with Human Health, December 2012.](#)

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<sup>1</sup> The **Zero Mercury Working Group** is an international coalition of over 110 public interest environmental and health non-governmental organizations from more than 55 countries from around the world formed in 2005 by the European Environmental Bureau and the Mercury Policy Project.

- ii. [Zero Mercury Working Group, Edward Groth, An Overview of Epidemiological Evidence on the Effects of Methylmercury on Brain Development and A Rational for a Lower Definition of Tolerable Exposure, December 2012](#)
- iii. [Zero Mercury Working Group, Summary/Recommendations – Mercury Contamination, Exposures and Risk: A New Global Picture Emerges, December 2012](#)

The ZMWG, in cooperation with BRI and other prominent scientists, organised a global webinar to release new findings that demonstrated extensive mercury contamination of seafood and summarized recent studies that show health effects from methylmercury occurring below the level that was considered “safe” just a few years ago. Scientists highlighted new research and explained why current government “safety limits” should be strengthened worldwide. The slides from the webinar presentations are [available here](#).

**ZMWG Comments on the OESG draft report:**

<b>Line Numbers</b>	<b>Comment</b>
All sections of the report	There is reference made about information used “(including applicable Indigenous and traditional knowledge)”. It would be good to have a comment on these other knowledges, if there were available and used, or if they were missing.
103 - 104	Where was mitigation successful?
112-113	What is the reason for sources related to products and processes increasing?
138-140	What is the reason for above average concentrations and the very high concentrations in W/C Africa?
200-207	No comparison at global scale of mercury in biota appears possible with the current data, however this would be rather necessary. While global comparison may be challenging, comparable data and use of harmonised methods would be recommended to facilitate the task.
408	Add after “southern hemisphere”: “highlighting the lacking effectiveness of the Minamata Convention in ASGM-related sectors.”
408-410	The sentence “Model simulations generally reproduce observed spatial patterns and deposition, but uncertainties in emission inventories – particularly for ASGM, waste, and regional sources – cause discrepancies with observed trends.” is a copy pasting of the same sentence in lines 401-402.
436-437	“Approximately 76–86% of the increase in secondary emissions from soils and oceans (2010–2020) is attributable to changes in anthropogenic emissions” needs to be further elaborated; it would be helpful to understand what is causing the secondary emissions, if this is due to anthropogenic interventions and what are those. Can it then be an estimate to show what % of emissions is eventually due to anthropogenic interventions directly or indirectly?
442	Make more clear what “non-power sectors” are in India.
512 -513	Include mention of other experts.

736-738	Same comment as below, information about the EDGAR and CLRTAP discrepancies would be welcome.
772 -776	What is the reason for this discrepancy? Some more information on this would be helpful. Please indicate where the table of the E-PRTR emissions to air is located in the document.
806 - 810	There is no entry on what information was used. It would be good to see some factual source for this comment - which data is this based on, can this be elaborated? Overall, it would be good if OESG or EEG could comment on Article 7 as an apparently ineffective provision to deal with ASGM, as evidence shows so far.
811 - 812	Sentence needs grammatical correction (sector and database should be plural), and it would be helpful to be more specific here: what are the similar and consistent findings (we are assuming increases in Hg, but please be clear).
883	This table would be nice as a pie-chart.
905	A header is missing for the second column, and for the first table also a pie-chart or bar graph would be providing a better overview of the data. Overall, it would be more helpful if the text from the GMA would not be repeated as was written, but be analyzed and put in direct context to other data sources mentioned before and after.
922	The sentence is not complete – please write it out correctly. Is meant that ‘there are no specific estimates...’?
1005	The answer develops the expectations of release to water from ASGM, but there is no detail regarding energy and waste. Is it possible to give indications as to why the releases to water for these sectors are expected to grow?
1009	“ASGM is mainly categorized as an informal sector with little regulatory attention or abatement measures being put in place” There seems to be a more global regulatory attention to the issue of ASGM, so saying there is “little regulatory attention” may seem like an understatement. Also, the incomplete enforcement and implementation of National Action Plans and potential bans of mercury in ASGM seems to be another issue, which should be mentioned.
1017	Reported Hg use where? Unclear which information source is referred to.
1075 and 1079	Spell out abbreviations.
1136 – 1137 and 1147 - 1149	Volcanic sources and their uncertainties are better covered than rock weathering information. It would be good to get some more information on the uncertainties and gaps with regards to rock weathering.
1277 – 1280	Given that wildfires have been increasing substantially with climate change and deliberate biomass burning due to increasing ASGM and farmland-clearing activities, it is surprising that Hg emissions have not been rising with the greater wildfire occurrence.
1790	Unclear what is meant by ‘circa 2010’. 2010 +/- how many years?

1829 - 1830	Make this more clear: "The fact that the monthly average in Dec 2022 exceeded the 300 ng/m-3 reference limit for more than 100 ng/m-3 highlights the severity...".
3850 - 3852	The explanations of low Hg concentrations in northern pike are unclear. Why would low values be explained by metal toxicity? Is it meant that bacteria are killed due to high Hg and therefore don't methylate the mercury? Is Hg in the water also low? It would be good to explain this better.
3852 - 3853	Please clarify; sentence looks contradictory. Hg concentrations have increased in recent years as Hg, other metals and SO2 emissions have declined? Did Hg increase or decline? In other media?
3934 -3936	It would be good to include error bars, trendlines, and confidence intervals in the graphs and the overall information.
3968	Include 'which' after "(CIN CIA)".
3978 - 3988	This is confusing, the header suggest that sediment was sampled, which is not mentioned in the para below. In line 3979, the word 'measuring' should be added before fish muscle. Also, exact methods are not described in these paras (including how many samples were taken, what the analytical methods were, etc). It would be better to have one section called "Methodology", and then describe in somewhat more detail what was sampled, how many samples were taken, how they were analyzed, etc.
3993	"Trend" should be plural (trends).
3995	"Feather" should be plural (feathers).
4008 - 4009	For cross-media contamination, it would be good to also include Hg concentration in sediments, and for the biomagnification, the foodweb items that the bats, fish, and birds consume.
4014 - 4017 and 4029 - 4033	The cross-media contamination is not well demonstrated, if the sediments of the ASGM-affected lakes did not also have high Hg conc - the movement of the mercury remains somewhat unclear. It is not explained if only surface sediment was sampled and analyzed. If so, dated sediment cores could help identify the timing of Hg deposition into the sediments. It would also be good to also analyze air, wet/dry deposition, water, and the lower foodweb, such as zooplankton. We agree that this case study would greatly benefit from Hg isotope analyses.
4318 - 4321	This is confusing: it is stated in line 4318 that Japan has not submitted the data, in line 4320 it is stated that there was data received from Japan.
4337	Unclear what is meant by 'measures of central tendency'.
4603	Replace "chapters" with 'sections'.
5011	It was earlier said that there is almost no data from Africa, therefore, it appears rather impossible to judge the consistency of the Hg levels in African soil.
Sediment section	It would be helpful to break the information down to regions, instead of just continents. For example, North America is a very large

	geographic area with significant differences. From the described text, it is not clear where in North America the sediment cores were taken. Such as Arctic vs in southern locations, Canada, US, or Mexico, etc. Muir et al (2009) separated sediment cores for Canada by Arctic, sub-Arctic, and mid-latitudes. This could also be considered for the global scale. Particularly in the Arctic and recent decades, lakes may be impacted by permafrost thaw and resulting slumps. Therefore, it should be treated and discussed separately.
6035	Stream should be plural ('streams').
6048 - 6049	The meaning of this sentence is very unclear, please clarify. Consider something like "At locations where total Hg is high, even a low percentage of MeHg can still mean elevated MeHg concentrations, due to the overall high mercury levels. This is a concern due to the toxicity of MeHg." Or similar, to better explain what is meant.
6060 - 6064	Explain a bit more why some landscapes are more susceptible for MeHg production, such as the very low pH (high acidity) in Kejimikujik National Park, resulting in (naturally) very high Hg levels ...
6123	"Partied" should be 'parties'.
Section 2.9.8 – water case studies	It would be great to have graphs of the Hg trends. Very nice figure with the happy vs not so happy fish!
6558 - 6559	May need to explain why the Arctic Ocean has elevated Hg "as expected due to high input loads to the surface" – since very remote.
7304 - 7306	As mentioned above, need to include a (half) sentence on how the other metal toxicity would inhibit Hg methylation (bacteria in sediments? References that have demonstrated and described it...?). Are the other metals now below CCME chronic guidelines for the protection of aquatic life? It would be helpful to mention here that they were exceeded, and if they have since fallen below the guidelines. Also, as mentioned above, maybe the case study above (biota section) should be only referred to briefly there, since it is covered here in more detail.
7335	This is the case for many other regions, and particular the homelands of Indigenous Peoples, where we find direct effects of colonization, high levels of food insecurity, and the highest levels of mercury contamination in traditional food sources globally. The first sentences here should be worded in a way that recognize this. For example by saying: 'As is the case for other parts of the world, in the Mediterranean we also see mercury impacts on the environment and people, since both are deeply connected...'
7360 - 7361	The last sentence could be taken as saying 'the mercury problem can be dealt with through consumption advice' and should be amended to say, 'As a short-term measure...'. AMAP human health assessments found that risk communication requires a lot of targeted and cultural appropriate effort, sustained communication and funding, can cause anxiety and can come at the expense of cultural identity loss. So, it is not a sustainable solution in the long run. Maybe this should be mentioned here, as well. On top of this, mitigating human exposure to

	mercury through consumption advice does not align with the (UN recognized) human right to a healthy environment.
7365 - 7383	The case study described in the biota section is similar, however, there is no mention of Hg levels in air, terrestrial biodiversity, and Hg isotopes (which are recommended to do in the future). To save space and prevent confusion, a detailed summary of the study in two places of the report is not necessary and should be described in sufficient detail in one section (likely here, since more elaborate) and only be referred to in the other one (biota), with conclusions.
7733 - 7735	Any mention of the causes of the higher Hg terrestrial deposition in the tropics? Only ASGM, or also increased biomass burning (including wildfires)?

Considering the data gaps identified in this draft, additional and more targeted efforts may be necessary to identify and collect relevant information feeding into the effectiveness evaluation exercise. As mentioned within the comments comparable data and harmonised methods would be necessary for certain data collection (e.g. biota).

Beyond the elements discussed in the OESG report, the EEG is to consider also other indicators such as related to mercury in products, waste etc. To that end it would be recommended that the OESG provides input also on such items and relevant data (e.g. mercury found in cosmetics).