

## **RE-REVIEW REPORT\_ MANUSCRIPT ID-119008**

**Title:** *Occurrence, composition, sources, and ecological-health risk assessment of polycyclic aromatic hydrocarbons in Chinese water bodies: A review*

### **1. Basic Reporting**

- a) The manuscript is written in clear, professional English.
- b) The introduction provides suitable background, context, and a clearly defined scope and motivation.
- c) Relevant literature has been broadly cited, and previously missing references have been corrected.
- d) The structure follows standard scientific conventions. Figures and tables are relevant, high-quality, and properly labelled.
- e) Raw data and supplementary information are provided in line with data-sharing policies.
- f) The review is timely, fits within the journal's scope, and holds broad interdisciplinary interest.

### **2. Study Design**

- a) The article's content aligns well with the aims and scope of the journal.
- b) Methodology is rigorous, applying a PRISMA-guided search strategy, with clear inclusion and exclusion criteria, and use of multiple databases.
- c) Study quality was assessed with a modified JBI checklist, and low-quality studies were excluded.
- d) Analytical frameworks (DRs, PMF, TEQ and ILCR) enhance robustness.
- e) The survey design is broad and unbiased, with potential sources of bias explicitly noted.
- f) Methods are described in sufficient detail for reproducibility.
- g) The review is logically structured and divided into coherent subsections.

### **3. Validity of the Findings**

- a) Conclusions are clear, well-stated, and grounded in the results.
- b) Claims are properly supported by evidence, with no unsupported causal links.
- c) Statistical analyses (Kruskal–Wallis, post-hoc) are appropriately applied.
- d) Limitations are recognized, including the focus on parent PAHs and limited long-term monitoring data.
- e) Future research directions are highlighted, such as establishing regional thresholds, investigating PAH derivatives, conducting long-term monitoring, and applying multimedia models.

❖ **Final Recommendation**

The authors have addressed all prior comments satisfactorily. The manuscript is scientifically sound and suitable for publication, requiring only minor editorial corrections (*e.g., formatting and style consistency*).

❖ **Issues Noted in the Manuscript (with track changes)**

Minor language issues: Some sentences are overly long and dense.

**Example (Lines 227–240):**

“...this study integrated measured data from 69 research regions across China...deciphering the spatial differentiation characteristics of hotspots such as northern industrial belts and eastern coastal areas, exploring the impacts of seasonal dynamics on concentration fluctuations, and positioning Chinese pollution levels in the global context...”

→ **this could be divided into shorter sentences for clarity.**

❖ **Figure captions: Some remain descriptive but are not fully self-contained.**

Example: “In order to accurately characterize the composition characteristics of PAHs in Chinese water environment...” (Fig. 3)

→ **Suggested revision: “Composition of PAHs in different Chinese water bodies.”**



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