1.Data Source Description : The manuscript does not clearly indicate which land use dataset was used (e.g., its source, year, classification scheme, and spatial resolution). Suggestion: It is important to explicitly state the database used (for example, GlobeLand30 or a national land use map), its spatial resolution (such as 30 meters), and the year of data acquisition. Additionally, it should be clarified whether the dataset underwent any preprocessing steps, such as reclassification or resampling.

Response: As mentioned in Section 2.2.1 of the text, the remote sensing data used was provided by the China Resources Satellite Data and Application Center (CRESDA) and was the GF-2 satellite data with a spatial resolution of 2 meters. It was a multispectral image and the land use/land cover types were classified according to the national standard "Land Use Classification" (GB/T 21010—2017). The remote sensing image for the year of 2023, January 14th, has been added to the text.

2.Furthermore, although landscape metrics are mentioned, the parameters used for their calculation—such as neighborhood radius, moving window size, or the definition of spatial units—are not detailed.Suggestion: Specify these parameters (distances, window size) and justify their selection, referencing appropriate literature where possible.Selection and Justification of Metrics: Several landscape indices are calculated, but it is unclear why these particular metrics were chosen or whether multicollinearity among them was assessed. Suggestion: Include a brief explanation justifying that the selected indices adequately capture the relevant urban landscape structure for the study, and confirm that there is no strong correlation among them, for example, by conducting a variance analysis or presenting a Pearson correlation matrix.

Response: In Section 2.4 of the paper, 11 landscape-level indicators were selected based on the ecological significance of features such as landscape fragmentation, aggregation, dispersion, connectivity, and diversity. These landscape-level indicators represent the overall structural attributes resulting from the spatial arrangement and composition of different patch types. The meanings and calculation formulas of each landscape pattern are described in Table 2. The issue of collinearity is explained in Section 3.3.2 of the paper. Pearson correlation analysis was conducted in Tables 8-10 to identify and eliminate highly correlated landscape pattern indices. Ultimately, Hongcheng Lake retained 6 landscape pattern indices, Jinniu Lake retained 7 indicators, and Meishere River retained 6 indicators.

3.Correlation and Regression Analysis: The authors apply correlation analyses and multiple regression models, but no correlation matrices or regression diagnostics are presented. This makes it difficult to assess the strength of associations and the reliability of the models. Suggestion: Include a) a correlation matrix or at least a table with Pearson correlation coefficients; b) basic regression statistics such as R^2, adjusted R^2, p-values, and standard errors; and c) verification that model assumptions were checked (normality of residuals,

heteroscedasticity, independence, etc.). Also, it is unclear whether lag effects were considered, as landscape conditions may influence water quality with some temporal delay. Suggestion: Include a brief justification for using synchronous data or, alternatively, discuss the potential impact of lagged effects in the limitations section.

Response: Table 8-10 is the Pearson correlation matrix. In the Spearman rank correlation table, ∗ indicates a significant correlation at the 0.05 level (two-tailed), and ∗∗ indicates a significant correlation at the 0.01 level (two-tailed), which is sufficient to test the correlation. Tables 14 and Figures 6 and 7 are the results of redundancy analysis. The landscape data is for the year 2023, and the water quality data is for 2024-2025; they are not synchronous data.

4.Spatial Autocorrelation: Since both explanatory and response variables are spatially distributed, spatial autocorrelation is likely present and could bias correlation and regression results. Suggestion: Test for spatial autocorrelation in model residuals (e.g., using Moran's I), and if significant autocorrelation is found, consider using appropriate spatial regression models, such as spatial lag or spatial error models.

Response: Before conducting the correlation analysis between the explanatory variables and the response variable, in order not to affect the results, a Pearson analysis was performed to eliminate the autocorrelated variables. The redundancy analysis was carried out using the data after eliminating the autocorrelated variables.

5.Results: In some parts of the discussion, objective results are mixed with speculative interpretations—for example, attributing changes in water quality to shifts in population density without supporting data. Suggestion: Clearly separate the presentation of results from their interpretation, and ensure that interpretations are directly supported by the data or cited literature. The authors frequently use the term "significant influence" without clarifying whether this refers to statistical significance ($p < 0.05$) or simply practical or qualitative importance. Suggestion: Always clarify the type of significance being referred to and report the corresponding p-values.

Response: The discussion section has been revised.

6.Figures and Tables: The spatial figures provide valuable information, but the legends use small font sizes and low contrast, making them difficult to read. Suggestion: Increase font sizes in legends and axes, and ensure sufficient contrast in color maps for better visibility. Additionally, the results section would benefit from including a table summarizing regression coefficients alongside their significance levels.

Response: The font size of the smaller parts in the picture has been modified.

7.Language and Terminology: There are inconsistencies in the use of terms, such as alternating between "green landscape" and "green infrastructure," or between "gray infrastructure" and

“impervious surfaces.” Suggestion: Use consistent terminology throughout the manuscript. Finally, there are some minor syntax and grammar issues. A thorough proofreading by a native English speaker is recommended to improve overall language quality.

Response: The green and grey landscapes of the title have been revised again.