Response to the Review Comments

To the Editor:

We appreciate the opportunity to submit this revised version of our manuscript for your consideration. We are grateful that the reviewer found the previous revision substantially improved, and we have carefully addressed all three remaining points. The reviewer's comments are reproduced below, each followed by our response, with the corresponding changes incorporated into the revised manuscript.

Please note that all line numbers mentioned in our responses refer to the cleaned version of the revised manuscript.

Response to Reviewer #1

Comment 1: The relationship between the inflection-point screening method (Sec. 2.4, median ~22%) and the final 15% threshold (Sec. 4.4) could be stated more clearly.

Response 1: We appreciate these comments. Previously we reported the position of the inflection point (median ~22%), which is on a different scale from the 0.15 threshold used for classification in Section 4.4. We now clarify this in importance units: across the 294 catchments, the single-variable MDI importance at the inflection point of the cumulative importance curve has a median of 0.171 (IQR 0.117-0.232), and the 0.15 threshold falls within this interquartile range, consistent with the data-driven inflection diagnostic. Relevant modifications have been made in **Section 2.4 (lines 195-197) and Section 4.4(lines 326-327)** of the revised manuscript.

Comment 2: the authors mention in their response letter that a computational error in the original driver categorization was corrected during revision, and although they state this does not affect the main conclusions, I would encourage them to briefly note the nature and magnitude of this correction somewhere in the revised manuscript for transparency.

Response 2: We appreciate these comments. We have added an explicit note in **Section 4.4 (lines 332-334)** describing the correction for transparency: "These percentages differ from the original submission (57.8% P-dominated and 11.9% P&T-dominated). During revision we identified and corrected an error in tallying catchments across driver categories, raising the P-dominated and P&T-dominated shares by 6.1 and 14.3 percentage points, respectively. This correction does not alter the main conclusions."

Comment 3: while the FDR-corrected POTF results are discussed openly in Sec 5 (22 of 51 upward trends retained), the abstract continues to report only the uncorrected 17.3% figure; acknowledging the FDR-corrected value there, or at minimum noting that not all raw-significant trends survive multiplicity correction, would give readers a more balanced picture.

Response 3: We appreciate these comments. The abstract now notes that not all raw-significant trends survive multiplicity correction **(lines 21-22)**, with the FDR-corrected results detailed in Section 5.