This supplement contains the following sections:

- Additional plots for the Cumberland Plateau: Supplementary Figure S1 shows additional width-area plots for the Cumberland Plateau; Supplementary Figures S2 and S3 show width against distance downstream for each channel.
- Additional plots for the Appalachian Plateau: Supplementary Figure S4 shows width against distance downstream for each river.

## 1 Additional plots for Cumberland Plateau

This section presents additional plots for the Cumberland Plateau analysis to supplement main text Section 4.1.

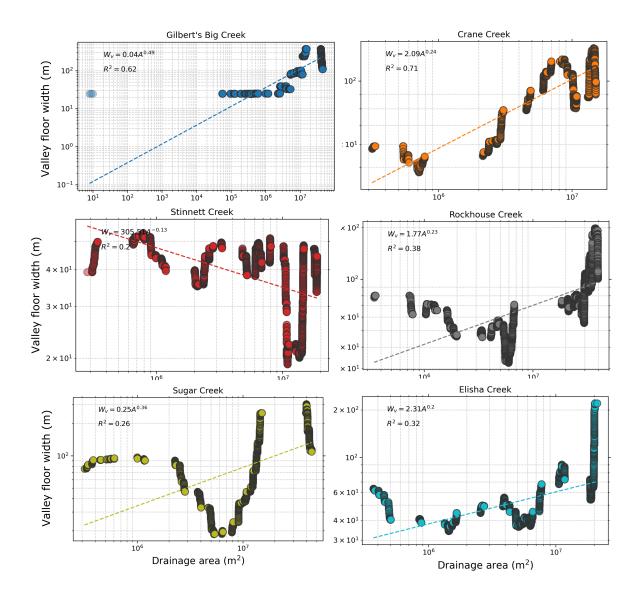


Figure S1: Width-area plots for the Cumberland Plateau creeks not shown in main text Figure 11. The dashed line represents a linear regression through the data in log-log space (power law).

## 2 Additional plots for Appalachian Plateau

This section presents additional plots for the Appalachian Plateau to supplement main text Section 4.2.

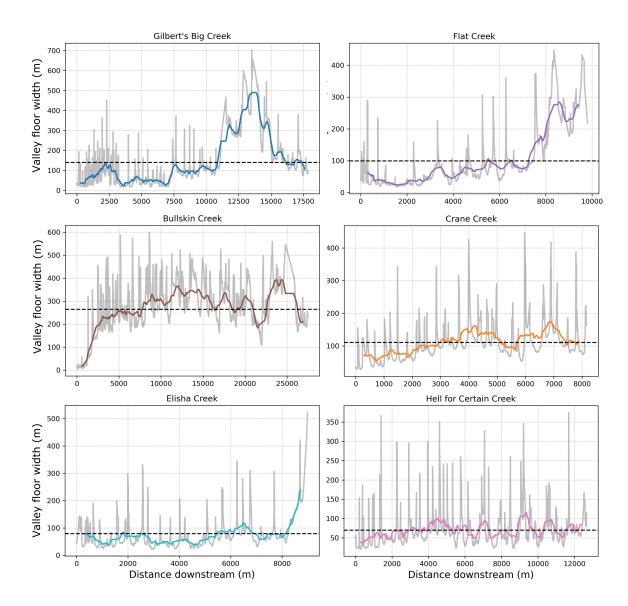


Figure S2: Width vs distance downstream for the small creeks analysed in the Cumberland Plateau. The grey data represents the raw data; coloured lines show a rolling mean through those data over a reach of 500 pixels. The dashed black line shows the mean width for each basin.

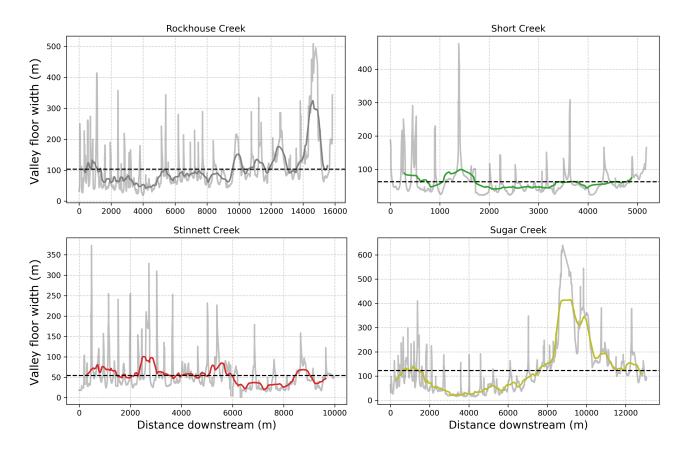


Figure S3: Width vs distance downstream for the small creeks analysed in the Cumberland Plateau. The grey data represents the raw data; coloured lines show a rolling mean through those data over a reach of 500 pixels. The dashed black line shows the mean width for each basin.

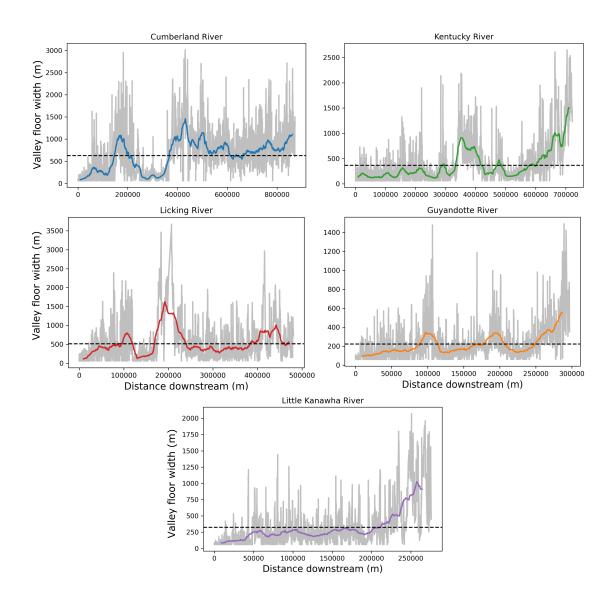


Figure S4: Width vs distance downstream for the large rivers analysed in the Appalachian Plateau. The grey data represents the raw data; coloured lines show a rolling mean through those data over a reach of 500 pixels. The dashed black line shows the mean width for each basin.