

Annual layers in river-bed sediment of a stagnant river-mouth area of the Kitagawa Brook, Central Japan

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Abstract The river mouth of Kitagawa Brook is normally stagnant because it is easily closed by sand and gravel transported by littoral currents of Biwa Lake, Japan. A new urban area exists in the basin and sewerage works were constructed in the early 1990s, so contaminated water with a bad odour had flowed into the brook before the sewerage works. To reduce the smell, the river mouth was excavated to narrow the channel in the early 1980s. Thus, river-bed sediment after this excavation only occurs at the river mouth. From the upper 24 cm of a sediment core, we found 19 strata of leaves which were supplied from deciduous trees in autumn. We also found several gravel layers which were supplied from the lake during severe storms. The combination of veins and gravel layers were reconstructed for about 20 years of sediment records with an error of two to three years.

Key words river bed sediment; river mouth; stagnant area; stratigraphy; annual layer