

## Study on characteristics of sediment and bed load discharge in Sungai Jemberau at Tasik Chini

A. A. G. Nadiatul Adilah<sup>ab</sup> and M. S. Siti Nur Marhidayu<sup>b</sup>

<sup>a</sup>Faculty of Civil Engineering, Universiti Teknologi Mara (Shah Alam),  
40450 Shah Alam, Selangor, Malaysia

<sup>b</sup>Faculty of Civil Engineering & Earth Resources, Universiti Malaysia Pahang, Lebuhraya Tun  
Razak, 26300, Gambang, Pahang, Malaysia

Email: [nadiatul@ump.edu.my](mailto:nadiatul@ump.edu.my)

### ABSTRACT

This study had been carried out to identify sediment characteristics in Sungai Jemberau at Tasik Chini, and to compare their bed load discharge data between the measured and predicted methods. It was observed that extensive uncontrolled mining activities nearby Sungai Jemberau had led to erosion and hence increasing bedload discharge. This situation had become worst during storm or rainfall events because of increased sedimentation process. The river depth had become shallow as the river bed was filled with bedload settles on the riverbed. Due to this situation, flooding becomes more severe as the river overflows. From here, the bedload discharge can be estimated using the DuBoys and Schoklitsch equation. Sediment size was classified using the Udden Wentworth Scale. Mostly, the median grain size ( $d_{50}$ ) was in a range of 2.0mm to 4.0mm, and was classified as Very Fine Gravel (VFG). Meanwhile, the density of sediment was in a range of 2.34g/cm<sup>3</sup> to 2.97g/cm<sup>3</sup>. Lastly, the comparison between the measured and predicted bedload discharge shown that DuBoys equation gives better prediction of bedload discharge in Sungai Jemberau.

### KEYWORDS:

Bed load discharge; sediment; mining; river