

**ANALISA MUKA AIR SUNGAI BARABAI
DALAM UPAYA PENANGANAN BENCANA BANJIR
DI KABUPATEN HULU SUNGAI TENGAH
PROPINSI KALIMANTAN SELATAN**

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ABSTRACT

Barabai river is part of River Region (SWS) Unit of Barito, this river spread from East to West and discharge at Batang Alai river which continue to Negara river. Before entering Negara River, Barabai river pass through areas of agriculture, settlement, and also the Capital of Regency Hulu Sungai Tengah, Barabai town. Condition of the river slope is relatively level off to cause the stream velocity to slow down and to have high potency of overflow to the right and left. Almost every year in the rainy season there are floods and inundations, especially in the area around Barabai town, the existence of the high fluctuation of water level at Barabai river causing backwater to the tributaries.

This research is conducted to estimate the water surface elevation over Barabai River within the Pagat Village up to Barabai city reach through the exercise of several improvement scenarios and further simulating such scenarios by using of HEC RAS version 3.1 software. From the exercised scenarios and their simulations, we can reach a conclusion of a particular scenario, which result in the lowest water surface elevation with certain design flood.

The final result of this research shows that scenario 4 of the river improvement exercises results in the lowest water surface elevation profile. Scenario 4 consists making of shortcut with opened of Panggung river. This scenario results in 307 cm, 304 cm, 317 cm, 315 cm, 311 cm, 308 cm, 305 cm, 304 cm, 314 cm, 314 cm, 315 cm, 311 cm, 309 cm dan 306 cm of maximum water level reduction respectively over cross sections number S04 to S17 for several simulations with 100 years of design discharge. The result of this research could be submitted as a recommendation to Hulu Sungai Tengah Government in particular and Kalimantan Selatan Government in general for the structural and nonstructural planning improvement against the flood disaster on Barabai River.

Keyword : *Barabai river, Flood disaster, Kalimantan Selatan.*