ABSTRAK

Kapasitas tampang tiap sungai berbeda-beda sesuai dengan karakteristik sungai. Penelitian ini dimaksudkan untuk memetakan kapasitas tampang Sungai Winongo. Sungai terletak di Provinsi Daerah Istimewa Yogyakarta dengan panjang sungai ± 35,6 km dan berhulu di daerah Kaliurang dan bermuara di Sungai Opak pada daerah Kretek. Metode yang digunakan yaitu dengan melakukan simulasi RMA2 pada *software* SMS AQUAVEO 10.1 dengan data sekunder yang diperoleh dari Balai Besar Wilayah Sungai Serayu Opak D.I Yogyakarta (BBWSSO-DIY). Data berupa cross hasil pengukuran dan Skema debit banjir Sungai Winongo. Hasil pemodelan menunjukkan bahwa Sungai Winongo mempunyai kapasitas yang berbeda-beda di tiap segmen. Hasil mengikuti debit langsung pada tampang adalah $20 \, \text{m}^3/\text{s}$, $50 \, \text{m}^3/\text{s}$, $67 \, \text{m}^3/\text{s}$, $75 \, \text{m}^3/\text{s}$, $120 \, \text{m}^3/\text{s}$, $140 \, \text{m}^3/\text{s}$, dan $150 \, \text{m}^3/\text{s}$. Debit kapasitas tampang Sungai Winongo mendekati debit kala ulang 2 tahun dan 10 tahun.

Kata – kata kunci: elevasi muka air, kapasitas tampang sungai, debit, kala ulang, RMA2.

ABSTRACT

The capacity of each river looks different according to the characteristics of the river. This research was intended to map the appearance capacity of the Winongo River. The river is located in the Province of Yogyakarta Special Region with a river length of ± 35.6 km and upstream in the Kaliurang area and empties into the Opak River in the Kretek area. The method used is by performing an RMA2 simulation on the SMS AQUAVEO 10.1 software with secondary data obtained from the Central Hall of the Serayu River Opak D.I Yogyakarta (BBWSSO-DIY). Data in the form of cross measurement results and Scheme of the Winongo River flood discharge. The modeling results show that Winongo River has different capacities in each segment. The results of the direct discharge on the look were 20 m^3/s, 50 m^3/s, 67 m^3/s, 75 m^3/s, 120 m^3/s, 140 m^3/s, and 150 m^3/s. The discharge capacity of the Winongo River approached a 2-year and 10-year return period.

Key words: water surface elevation, full bank capacity, discharge, return period, RMA2.