ABSTRACT

Hendro Kartiko. Estimasi Sumber dan Beban Pencemar Sungai Winongo (Sub-Das Bagian Hilir-Barat). Dibimbing oleh Nelly Marlina, S.T., M.T. dan Dhandun Wacano, S.Si., M.Sc

Sungai Winongo merupakan salah satu sungai yang mengalir di Daerah Istimewa Yogyakarta. Sungai ini memiliki panjang ± 41, 3 Km serta luas daerah aliran sungai ± 118 Km2. bermata air di Lereng Gunung Merapi dan bermuara di Sungai Opak. Sungai Winongo dari hulu ke hilir melalui tiga wilayah administrasi yaitu Kabupaten Sleman, Kota Yogyakarta, dan Kabupaten Bantul. Sungai Winongo memiliki peran vital sebagai penunjang kehidupan sosial penduduk di sekitarnya seperti sumber air baku untuk minum, industry dan pertanian. beberapa kegiatan yang dilakukan masyarakat menyebabkan Sungai Winongo tercemar. Pencemaram terjadi dikarenakan banyaknya aktifitas yang dilakukan oleh masyarakat kemudian menghasilkan limbah cair yang dibuang tanpa adanya strategi pengelolaan yang baik sehingga mengakibatkan ekosistem dan biota yang terdapat di sungai winongo menjadi rusak. untuk meminimalisir adanya pencamaran di Sungai Winongo dapat dilakukan dengan cara mengidentifikasi serta inventarisasi sumber-sumber pencemar yang berpotensi mencemari Sungai Winongo di sepanjang DAS Winongo. Penelitian ini diawali dengan mencari data primer seperti mengumpulkan sumber data pencemar yang ada serta data sekunder penunjang penelitian seperti tata guna lahan di DAS Winongo segmen Hilir-Barat. Hasil yang diperoleh dibandingkan dengan data DLHK Provinsi DIY pada tahun 2012. Ditemukan adanya lonjakan industri yang mulanya 13 menjadi 145 unit industri. Beban pencemar tertinggi dikategorikan menjadi 2 yaitu *Diffuse source* dan *Point source* dimana parameter diffuse source tertinggi dihasilkan oleh Kabupaten Bantul dengan nilai BOD, COD serta TSS masing-masing sebesar 553,3 Kg/hari, 759,7 Kg/hari dan 524,3 Kg/hari serta beban pencemar point source yang tertinggi dihasilkan oleh industri Laundry dengan nilai BOD 29,4 Kg/hari, COD 56,9 Kg/hari dan TSS 9,56 Kg/hari.

Kata Kunci : Sungai Winongo, Kualitas Air, Sumber Pencemar, beban pencemar

ABSTRACT

Hendro Kartiko. Estimation of Pollutant Sources and Pollutant Loads at Winongo River (West-Downstream Sub Watershed) Supervised by Nelly Marlina, S.T., M.T. and Dhandun Wacano, S.Si., M.Sc

Winongo River is one of the rivers that flow in the Special Region of Yogyakarta. This river has a length of ± 41, 3 km and a watershed area ± 118 Km2. water-eyed on the slopes of Mount Merapi and empties into the Opak River. Winongo River from upstream to downstream through three administrative regions namely Sleman Regency, Yogyakarta City, and Bantul Regency. Winongo River has a vital role as supporting the social life of the surrounding population such as raw water sources for drinking, industry and agriculture. several activities carried out by the community caused the Winongo River to be polluted. Pollutants occur because of the many activities carried out by the community and then produce liquid waste that is discharged without a good management strategy, causing ecosystems and biota contained in the Winongo river to be damaged. to minimize the existence of contamination in the Winongo River can be done by identifying and inventorying sources of pollutants that have the potential to pollute the Winongo River along the Winongo watershed. This research begins by searching for primary data such as collecting existing pollutant data sources and secondary data supporting research such as land use in the Winongo watershed in the Hilir-West segment. The results obtained were compared with DLHK data of the Province of DIY in 2012. It was found that there was a surge in the industry, which was originally 13 to 145 industrial units. The highest pollutant load is categorized into 2 namely Diffuse source and Point source where the highest diffuse source parameters are produced by Bantul Regency with BOD, COD and TSS values of 553.3 kg / day, 759.7 kg / day and 524.3 kg, respectively / day and the highest point source pollutant load generated by the Laundry industry with a BOD value of 29.4 kg / day, COD of 56.9 kg / day and TSS 9.56 kg / day.

Keyword : Winongo River, Water Quakity, Pollutions Source, Pollutant Loads