ABSTRACT

Gazali, Achmad. 2011. **Biodiversity of Macrozoobenthos as Bioindicator of Ranu Pani-Ranu Regulo Watering Quality Bromo Tengger Semeru National Park.** Thesis, Biology Department, Science and Technology Faculty, State Islamic University Maulana Malik Ibrahim of Malang. Advisor I: Dwi Suheriyanto, M.P. Advisor II: Romaidi, M.Si.

Key Words: Biodiversity, Macrozoobenthos, Ranu Pani, Ranu Regulo, Bromo Tengger Semeru National Park.

Ranu Pani and Ranu Regulo are lake that including to intensive beneficial zone at Bromo Tengger Semeru National Park (TN.BTS). Ranu Pani and Ranu Regulo are 2.200 m dpl and 1 ha and 0.75 ha. The water from both of lake is used as tourism object, farming, baths livestock and fishing object. The activities of resident and visitor around the lakes are giving influence to watering quality. The objectives of this research are to know about the macrozoobenthos biodiversity as bioindicator of Ranu Pani-Ranu Regulo watering quality TN.BTS and to know about the watering quality by evaluated the physics and chemical factor.

The research was done in TN.BTS at Mei 2011-Juni 2011. This research was quantitative descriptive by *Purposif Random Sampling* methods. The example was taken by using *Ekman dredge* and by hands. The examples were identified in Ecology and Optic laboratories, Biology Department, Science and Technology Faculty, State Islamic University Maulana Malik Ibrahim of Malang.

The results of macrozoobenthos research in Ranu Pani were consisted by 93 bulimidae, 14 Hirudidae, 22 Glossiphoniidae, 1 Syrphidae, 1 Gomphidae, 3 Coanagrionidae, and 1 Gammaridae. The macrozoobenthos in Ranu Regulo watering were consisted by 50 Coanagrionidae, 5 Aeshnidae and 5 Asselidae. The biodiversity in Ranu Pani and Ranu Regulo watering were low. Biodiversity Index value in Ranu Pani was 0,98 and 0,57 in Ranu Regulo. Dominan Index value in Ranu Pani was 0,51 and 0,71 in Ranu Regulo. The watering condition based on macrozoobenthos as bioindicator in Ranu Pani was medium impure untill impure and medium impure only for Ranu Regulo. The both of watering condition by biodiversity index was high impure. The analys of physics and chemical factor (based on PP.No.82.thn.2001 about standard quality of water) to pH (except pH in station IV at Ranu Regulo watering was including to the fourth class of water), DO, BOD, COD, nitrat, TSS (except TSS in station II, IV, and V at Ranu Pani watering was including to the third class of water), and TDS measurement indicated that Ranu Pani and Ranu Regulo watering were including as the second and third class of water. The analys of phosphate showed that Ranu Pani and Ranu Regulo watering were including as third class of water.