

SUMMARY

Desy Ayu Maharani, *Departement of Water Resources Engineering, Faculty of Engineering, University of Brawijaya, Januari 2017, Study of Shore Protection in Sabuai Village Kotawaringin Barat Regency, Academic Supervisor : Ir. Dwi Priyantoro, MS. and Prima Hadi Wicaksono, ST., MT.*

Indonesia as an archipelagic country has more than 17,000 islands and shore areas along 80,000 km or two times the circumference of the Earth through the equator. Shore areas are very long, human activity and development activities in the shore region as well as natural factors such as waves, tides and currents can cause a negative impact on shore areas with erosion and sedimentation. Sabuai beach is one of the beaches abraded by sea water. Thus, resulting in further pullback shoreline. The conditions is required in connection with a protection structure that able to withstand waves of sea water in accordance with local conditions in order to avoid abrasion.

Planning the shore protection structure in Sabuai begins with an analysis of the distribution of wind direction and analysis of wave generation is accompanied by a length analysis fetch produces an output in the form of wave height. The wave heights is used as the basis for calculating the distribution of wave direction and then proceed to the calculation of wave transformation analysis. Wave transformation analysis calculation results in the form of a breaking wave that will be used as the basis for determining the calculated sea level and designing the dimension of protection structure. The simulation of the shoreline conditions modeling in this study is using GENESIS CEDAS program.

Based on the calculation and analysis, the wave heights that used in designing the protection structure is 2,109 m. Based on the prediction of shoreline changes on Sabuai for existing conditions within a period of 25 years erosion will occur on 51 to 59 peg. Thus, shore protection structure that quite effective in maintaining the position of the shoreline such as groin is needed. There are 3 structure of groins where each has a length of 200 m, 162 m, and 96 m with a peak elevation groin +3.

Keywords: GENESIS, Shoreline, Shore Protection

