

DAFTAR PUSTAKA

- Abd Rahim A, Maricar Farouk dan Silman Pongmanda. (2017). Pengaruh jarak antar krib terhadap karakteristik aliran pada model saluran . *Jurnal Universitas Hasanuddin Makassar*.
- Agus Maryono. 2008. *Restorasi Sungai*. Gadjah Mada University Press. Yogyakarta.
- Ahmad Syarif Sukri dan Riswal K. (2018). Pengaruh bentuk krib tiang terhadap pola aliran. *Jurnal STABILITA*, Vol. 6 No
- Alexander, dkk. (2016). Effects of vegetation on turbulent flow structure in groyne fields. *Journal of Hydraulic Research*, DOI: 10.1080/00221686.2016.1211183
- Bambang Triatmodjo, 2008. *Hidraulika Jili 2. Beta Offset*. Yogyakarta.
- Breusers, H.N.C. and Raudkivi, A.J. (1991). Scouring. IAHR Hydraulic Structure Design Manual, 1st ed. A.A. Balkema. Rotterdam.
- Damera R Marak dan Mimi Das Saikia. (2018). Comparisons Of Velocity Distributions Due To Permeable And Impermeable Spur-Dike In A Rectangular Channel. *Journal of Engineering and Technology (IRJET)*, Volume: 05(Issue: 05).
- Hamed Sarveram (2012). Two-dimensional simulation of flow pattern around a groyne using semi-implicit semi-Lagrangian method. *Journal of Physical Sciences*, Vol. 7.
- Hoffmans, G.J.C.M. and Verheij. (1997). Scour Manual. A.A. Balkema, Rotterdam.
- Iskandar, D. (2015). Analisa pengaruh penempatan krib terhadap distribusi sedimen di pertemuan sungai Garang dan Kreo. *Jurnal Teknik Pengairan*, 6, 206–215.
- Kodatie Robert J, 2009. *Hidrolik Terapan Aliran pada Saluran Terbuka dan Pipa*. Edisi Revisi, Penerbit Andi. Yogyakarta
- Maryono, A. (2007). *Eco-Hidraulik, Bio-Engineering*. Yogyakarta.
- M. Sahriat dkk. (2016). Kajian perletakan krib pada aliran sungai Krueng Aceh. *Jurnal Teknik Sipil*, Volume 6,.
- Md. Shahjahan Ali. (2017). Two-Dimensional Simulation of Flows in an Open Channel with Groin-Like Structures by iRIC Nays2DH. *Hindawi*

Mathematical Problems in Engineering, Volume 201.

- Moh. Patoni. (2017). Studi Pengaruh Krib Kombinasi Permeable Dan Impermeable Terhadap Pola Gerusan. Sekolah Pascasarjana Universitas Hasanuddin Makassar
- Mona M. Mostafaa. (2019). Experimental study off low characteristics around flood plain single groyne. *Journal of Hydro-Environment Research, Elsevier*.
- Mukesh Kafle. (2014). Numerical simulation of flow around a spur dike with free surface flow in fixed flat bed. *Journal of the Institute of Engineering*.
- Munson, Bruce R, D. (2005). *Meknika Fluida*. Erlangga.
- Pratiwi Aziz dan Akihiro Kadota. (2018). Experimental Study of Morphological Changes and Flow Structure around the Vegetation Groyne. *Advanced Science Engineering Irmatioan Teknologi, Vol.8 (201)*.
- Riham Mohsen Ezzeldin. (2019). Numerical and experimental investigation for the effect of permeability of spur dikes on local scour. *Journal of the Institute of Engineering*.
- Ronald Möws and Katinka Koll. (2019). Roughness Effect of Submerged Groyne Fields with Varying Length, Groyne Distance, and Groyne Types. *Water 2019, 11, 1253. MDPI*.
- Sosrodarsono, S. dan M. T. (2008). *Perbaikan dan Pengaturan Sungai*. PT Pradnya Paramita.
- Sughono, 1995. *Buku Teknik Sipil*. Penerbit Nova. Bandung
- Suripin, 2004. Pelestarian Sumber Daya Tanah dan Air. Penerbit Andi Yogyakarta. Yogyakarta.
- Suyono Sasrodarsono, (1986) Perbaikan dan pengaturan sungai. Pradnya Paramita. Jakarta
- Theofano, dkk. (2018). Groyne spacing role on the effective control of wall shear stress in open-channel flow. *Journal of Hydraulic Research*.
- Triatmodjo B, 2015. *Hidrolika I*, Penerbit Univrsitas Penerbit Gadjah Mada. Yogyakarta
- Yossef, M. F. M., & De Vriend, H. J. (2011). Flow Details Near River Groynes: Experimental Investigation. *Journal of Hydraulic Engineering*.
- Yasir Arafat, M Saleh Pallu, Farouk Maricar, Rita Tahir Lopa (2015) Evolusi

Morfologi Hilir Sungai Jeneberang, Indonesia: Universitas Hasanuddin Makassar.

Yulistiyanto B. Zech Y. and W.H. Graf. (1998). Free-Surface Flow Around a Cylinder: Shallow Water Modeling With Diffusion-Dispersion. Journal Hydraulic Engineering, Vol. 124. No.4. PP.419-429. ASCE. New York.

DOKUMENTASI PENELITIAN

Gambar 31. Pemasangan model krib permeable



Gambar 32. Pengaliran model krib permeable



Gambar 33. Penggerusan terjadi disekitar krib permeable



Gambar 34. Pengukuran kecepatan aliran dengan pitot portable



Gambar 35. Kondisi sedimen setelah pengaliran



Gambar 36. Pengukuran kedalaman gerusan



Gambar 37. Tampungan sedimen yang tergerus



Gambar 38. Berat sedimen yang tergerus