INTISARI

Kabupaten Sleman sering kali dilanda bencana kekeringan, bahkan wilayah terdampak kekeringan semakin meluas terutama saat musim kemarau. Upaya perlindungan keseimbangan sumber daya air dan pencegahan risiko kekeringan perlu dilakukan, salah satunya melalui konservasi daerah resapan air. Kurangnya informasi mengenai perubahan luas daerah resapan di Kabupaten Sleman menjadi penghambat dalam upaya perlindungan daerah resapan air guna menjaga ketersediaan air, terutama saat musim kemarau. Analisis perubahan daerah resapan air perlu dilakukan untuk mendeteksi perubahan, mengidentifikasi area yang menurun fungsinya, dan segera melakukan konservasi yang tepat. Penelitian ini bertujuan untuk menganalisis perubahan potensi daerah resapan air di Kabupaten Sleman pada tahun 2017 dan 2021.

Perubahan potensi daerah resapan air dilakukan dengan skoring dan *overlay* antara potensi infiltrasi alami dan infiltrasi aktual. Parameter yang mempengaruhi potensi infiltrasi alami meliputi kemiringan lereng, jenis tanah, curah hujan, dan potensi air tanah sesuai dengan Permen LHK Nomor 10 Tahun 2022. Potensi infiltrasi aktual dipengaruhi oleh tutupan lahan yang diperoleh dari klasifikasi citra Landsat 8 menggunakan metode klasifikasi terbimbing. Setelah peta potensi daerah resapan air Kabupaten Sleman tahun 2017 dan 2021 diperoleh, dilakukan analisis perubahan resapan air dengan menghitung perubahan luas dan distribusi potensi air di wilayah penelitian.

Hasil penelitian ini menunjukkan potensi daerah resapan air di Kabupaten Sleman terbagi menjadi potensi baik, normal alami, mulai kritis, agak kritis, dan kritis. Perubahan potensi daerah resapan air tahun 2017 dan 2021 menunjukkan penurunan luas pada potensi resapan air baik sebesar 1,180,86 Ha (2,05%). Potensi resapan air normal alami mengalami peningkatan sebesar 592,95 Ha (1,03%). Sebaliknya, potensi resapan air mulai kritis mengalami penurunan signifikan sebesar 1.688,73 Ha (2,94%). Potensi resapan air agak kritis mengalami penurunan yang tidak signifikan sebesar 11,03 Ha (0,01%), sedangkan potensi resapan air kritis mengalami peningkatan signifikan sebesar 2.288,49 Ha (3,98%). Menurut BPBD Sleman, wilayah yang mengalami penurunan ketersediaan air semakin luas pada tahun 2021 dibandingkan tahun 2017. Hal ini selaras dengan hasil analisis yang menunjukkan peningkatan signifikan pada potensi resapan air kritis.

Kata Kunci: Daerah resapan air, infiltrasi, skoring

ABSTRACT

Sleman Regency is often hit by drought disasters and the drought-affected areas are even more widespeard, especially during the dry season. Efforts to protect the balance of water resources and prevent the risk of drought need to be made, one of which is through the conservation of water catchment areas. The lack of information on changes in the size of water catchment areas in Sleman Regency hampers efforts to protect water catchment areas to maintain water availability, especially during the dry season. Analysis of changes in water catchment areas nedds to be done to detect changes, identify areas that are declining in function, and immediately carry out appropriate conservation. This research aims to analyze changes in the potential pf water catchment areas in Sleman Regency in 2017 and 2021.

Changes in the potential of water catchment areas were carried out using scoring and overlaying between natural infiltration potential and actual infiltration. Parameters that affect natural infiltration potential include slope, soil type, rainfall, and groundwater potential in accordance with the Minister of Environment and Forestry Regulation Number 10 of 2022. Actual infiltration potential is influenced by land cover which is obtained from the classification of Landsat 8 images using the Maximum likelihood method. After the 2017 and 2021 Sleman Regency water catchment potential maps were obtained, analysis was conducted by comparing the two maps to determine the differences in the area and distribution of water potential in the study area.

The results of this study show that the potential of water catchment areas in Sleman Regency is divided into good, natural normal, starting to be critical, somewhat critical, and critical potential. Changes in the potential of water catchment areas in 2017 and 2021 show a decrease in the area of good water catchment potential 1.180,86 Ha (2.05%). Normal natural water catchment increased by 592.95 Ha (1.03%). In contrast, the water catchment potential that started to become critical experienced a significant decrease of 1.688,73 Ha (2.94%). Moderately critical water catchment experienced an insignificant decrease by 11,03 Ha (0.01%), while critical water catchment potential has significantly increased by 2.288,49 Ha (3.98%). According to BPBD Sleman, the area experiencing a decrease in water availability is wider in 2021 than in 2017. This is in line with the results of the analysis which shows a significant increase in critical water catchment potential.

Keywords: Water catchment area, infiltration, scoring