

**Penentuan *Hydrological Respon Unit* Prioritas untuk *Rewetting*
Lahan Gambut di Sumatera dengan Analisis Klaster
dan *Analytical Hierarchy Process***

Oleh

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INTISARI

Sumatera merupakan kawasan lahan gambut yang diprioritaskan untuk kegiatan *rewetting*. Badan Restorasi Gambut dan Mangrove (BRGM) menetapkan *Hydrological Respon Unit* (HRU) sebagai unit manajemen terkecil dalam restorasi gambut. Karakteristik HRU dicirikan melalui variabel yang beragam. Kondisi tersebut menyebabkan kegiatan *rewetting* tidak merata di seluruh HRU. Oleh sebab itu, dilakukan upaya penyederhanaan yang tepat tanpa mengabaikan variasi tersebut. Penelitian ini bertujuan untuk menyederhanakan ragam HRU melalui klaster HRU. Klaster digunakan untuk menentukan HRU prioritas *rewetting*.

Data yang digunakan adalah variabel dan skor dari BRGM. Metode *k-means* digunakan untuk menyederhanakan ragam HRU menjadi klaster. Prioritas diperoleh melalui pendekatan metode *Analytical Hierarchy Process* (AHP). Pendapat narasumber diperoleh melalui wawancara dan nilai kepentingan variabel melalui kuesioner.

Hasil penelitian menunjukkan ragam HRU yang sangat besar melalui 216.643 LMU. Keragaman tersebut disederhanakan melalui *k-means* yang menghasilkan 4 klaster HRU. Berdasarkan hasil klasterisasi, HRU prioritas *rewetting* ditentukan pada kawasan sangat kritis dengan intensitas kebakaran tinggi dan defisit air berat. HRU prioritas ditetapkan pada klaster 1 dengan luasan 604.654 hektar pada 113 HRU.

Keywords : Prioritas, *Rewetting*, *Hydrological Respon Unit*

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Determining Priority Hydrological Respon Units for Rewetting Peatlands in Sumatra Using Cluster Analysis and Analytical Hierarchy Process

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ABSTRACT

Sumatra is a peatland area that is prioritized for rewetting activities. The Peat and Mangrove Restoration Agency (BRGM) established the Hydrological Respon Unit (HRU) as the smallest management unit in peat restoration. HRUs are characterized by diverse variables. This condition causes rewetting activities to be unevenly distributed throughout the HRU. Therefore, an appropriate simplification effort is needed without ignoring these variations. This research aims to simplify the variety of HRUs through HRU clusters. Clusters are used to determine the priority rewetting HRUs.

The data used were variables and scores from the BRGM. The k-means method was used to simplify the variety of HRUs into clusters. Priorities were obtained through the Analytical Hierarchy Process (AHP) method approach. Resource persons' opinions were obtained through interviews and variable importance scores through questionnaires.

The results showed a huge diversity of HRUs through 216,643 LMUs. The diversity was simplified through k-means which resulted in 4 HRU clusters. Based on the clustering results, priority rewetting HRUs were determined in highly critical areas with high fire intensity and severe water deficit. Priority HRUs were determined in cluster 1 with an area of 604,654 hectares in 113 HRUs.

Keywords : Priority, Rewetting, Hydrological Respon Unit

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