

# Model harmonisasi ruang antara konservasi dan produksi di suatu kelompok hutan studi kasus di kelompok hutan tesso nilo provinsi riau = Spatial harmonization model between conservation and production in a forest block case study in tesso nilo forest block in riau province

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## Abstrak

Kelompok hutan Tesso Nilo merupakan salah satu blok hutan yang terbesar yang tersisa di Provinsi Riau. Meskipun demikian, perubahan tutupan hutan alam kelompok hutan ini sangat cepat, khususnya karena keberadaan jalan yang dibangun oleh perusahaan untuk memperpendek jarak pengangkutan hasil produksi kayu HTI ke pabrik pulp and paper. Kami menilai dampak akses jalan yang membelah kawasan hutan Tesso Nilo (377.387 hektar) dari Selatan Ke Utara (jalan HTI Baserah sepanjang 50 km) dan dari Timur ke Barat (jalan HTI Ukui sepanjang 28 km) sebagai sarana pengangkutan kayu bagi industri pulp and paper. Analisis dilakukan melalui tumpang tindih data digital penutupan lahan hasil penafsiran citra landsat sebelum dan sesudah jalan akses HTI dibangun. Berdasarkan laju deforestasi yang terjadi antara tahun 2000 dan 2012 dilakukan proyeksi kecenderungan deforestasi Tahun 2018 dengan menggunakan perangkat lunak Idrisi dengan tool Land Change Modeler. Untuk membangun model harmonisasi ruang antara konservasi dan produksi di kawasan Hutan Tesso Nilo, dilakukan dengan menggunakan analisis spatial multi criteria menggunakan ArcGis 10.

Hasil penelitian menunjukkan periode 2000-2002 laju deforestasi rata-rata tahunan mencapai 3.530 ha, dan meningkat drastis menjadi 13.903 ha tahun 2002-2007 setelah kedua jalan dibangun. Secara keseluruhan, laju deforestasi rata-rata tahunan periode 2000-2012 adalah 9,28 persen (8.156,97 ha hutan), atau penurunan perkiraan total 97.883,64 hektar selama 12 tahun. Hasil proyeksi kecenderungan deforestasi 2018 diperkirakan hutan alam Tesso Nilo hanya 28.017 ha dan non-hutan alam 335.930 ha. Hasil skoring dan pembobotan untuk pilihan skenario optimum produksi dan konservasi menjadi pilihan model harmonisasi ruang antara konservasi dan produksi di kelompok hutan Tesso Nilo. Model ini dapat menjamin keberadaan kawasan konservasi di masa mendatang, menjadikan distribusi satwa liar di konsesi HTI menjadi koridor satwaliar yang dilindungi.

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Tesso Nilo forest block is one of the largest forest block remaining in the Riau Province. However, the forest changes rapidly, especially when roads were developed by company crisscrossing and transecting the area. This study is to reassess the impact of the access road development in terms of spatial differentiations. The roads crisscrossed Tesso Nilo forest area (377,387 hectares) from the South to the North (Baserah of HTI road along 50 km), and transects from East to West (Ukui of HTI road along 28 km) play very important function for a company to transport forest products of pulp and paper company.

The study applies over-laying techniques of digital data for land cover landsat image in various periods, and interpretes before and after the road built. Based on the rate of deforestation between 2000 and 2012, deforestation trends model 2018 using the Idrisi software tool Land Change Modeler were carried out. To build the spatial harmonization model between conservation and production in Tesso Nilo forest areas, the study applied used a spatial multi criteria analysis using ArcGIS 10.

The results showed that the average rate of annual deforestation period 2000-2002 reached to 3,530 ha, and increased dramatically after the second road was built to 13,903 ha for 2002-2007. Overall, the rate of deforestation annual average between 2000-2012 period is 9.28 percent (8,156.97 ha), or a reduction in the estimated total of 97,883.64 ha for 12 years. From our modeling study it shows that deforestation trends in 2018 is estimated that the remain of natural forests of Tesso Nilo area will be only 28,017 ha while non forested area increase to 335,930 ha. Using score and weight values of optimum production and conservation scenario to spatial harmonization model between conservation and production in Tesso Nilo Forest Block to ensure the existence of protected areas, wildlife corridors were proposed which connected Timber Plantation Forest concessions to the natural forest blocks and national park.