

**KAJIAN KERUSAKAN LINGKUNGAN PADA EKOSISTEM MANGROVE
DI WILAYAH PESISIR UJUNG PANGKAH KABUPATEN GRESIK
(Studi di Desa Pangkah Kulon dan Pangkah Wetan
Kecamatan Ujung Pangkah Kabupaten Gresik Provinsi Jawa Timur)**

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INTISARI

Salah satu sumberdaya di wilayah pesisir yang rentan mengalami kerusakan adalah ekosistem mangrove, sebagaimana mangrove yang terdapat di Desa Pangkah Kulon dan Pangkah Wetan Kecamatan Ujung Pangkah Kabupaten Gresik. Kondisi mangrove di wilayah ini mengalami degradasi akibat berkembangnya budidaya tambak dan perubahan dinamika pesisir (abrasi dan akresi). Tujuan penelitian ini adalah: (a) mengidentifikasi kondisi dan sebaran ekosistem mangrove, (b) menganalisis kerusakan lingkungan pada ekosistem mangrove, dan (c) strategi pengelolaan lingkungan pada ekosistem mangrove di wilayah pesisir daerah penelitian.

Metode yang digunakan dalam penelitian ini adalah survei melalui interpretasi data penginderaan jauh dan pengukuran lapangan. Sampel diukur secara *integrated rapid survey* untuk mengamati kerusakan ekosistem mangrove dan mengetahui persepsi masyarakat yang memiliki aktivitas pemanfaatan dalam ekosistem mangrove. Interpretasi data penginderaan jauh dilakukan untuk menganalisis kerusakan lingkungan berdasarkan penurunan luas area ekosistem mangrove mulai tahun 2003, 2015, dan 2020. Kerusakan lingkungan juga dianalisis terhadap aspek kultural, yaitu berdasarkan persepsi masyarakat dengan cara pengisian kuesioner.

Hasil penelitian menunjukkan bahwa sebaran ekosistem mangrove di daerah penelitian berpola mengelilingi tambak dan sebagian berada di muara sungai Bengawan Solo, yang terbagi menjadi 4 klas kerapatan tajuk (sangat jarang, jarang, sedang, dan lebat). Berdasarkan hasil interpretasi data penginderaan jauh telah terjadi perubahan luasan, sebaran, dan klas kerapatan ekosistem mangrove di daerah penelitian. Pada tahun 2003, kerapatan tajuk didominasi oleh kerapatan tajuk sangat rendah (75,01%), sedangkan pada tahun 2015 dan 2020 didominasi oleh kerapatan tajuk sedang dengan presentase berturut-turut sebesar 32,75% dan 46,24%. Faktor-faktor yang menyebabkan kerusakan ekosistem mangrove di daerah penelitian adalah karena adanya dinamika garis pantai akibat proses akresi dan abrasi. Berdasarkan analisis aspek kultural melalui persepsi masyarakat menunjukkan bahwa sebagian besar masyarakat tidak menyetujui pernyataan kondisi mangrove di daerah penelitian dalam kondisi rusak. Berdasarkan analisis menggunakan metode AHP, menunjukkan bahwa strategi pengelolaan lingkungan yang dianggap paling sesuai adalah rehabilitasi dan pemeliharaan ekosistem mangrove, pendidikan dan pelatihan, pemberdayaan masyarakat, pengembangan riset, penerapan ilmu pengetahuan dan teknologi.

Kata kunci: ekosistem mangrove, kerusakan lingkungan, pengelolaan lingkungan, wilayah pesisir

**A STUDY OF ENVIRONMENTAL DAMAGE IN MANGROVE ECOSYSTEM
AT UJUNG PANGKAH COASTAL AREA, GRESIK**
(Study in Pangkah Kulon and Pangkah Wetan Villages, Ujung Pangkah, District, Gresik,
East Java Province)

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ABSTRACT

One of the resources in coastal areas that is prone to damage is the mangrove ecosystem, such as the mangroves in Pangkah Kulon and Pangkah Wetan, Ujung Pangkah District, Gresik. The condition of mangroves in this area is experiencing degradation due to the development of aquaculture and coastal dynamics (abrasion and accretion). The objectives of this study are: (a) to identify the condition and distribution of mangrove ecosystems, (b) to analyze environmental damage to mangrove ecosystems, and (c) to formulate environmental management strategies for mangrove ecosystems in the coastal areas of the study area.

The method used in this research is a survey through interpretation of remote sensing data and field measurements. Samples were measured by integrated rapid survey to observe damage to the mangrove ecosystem and to find out the perceptions of the community who have utilization activities in the mangrove ecosystem. The interpretation of remote sensing data was carried out to analyze environmental damage based on the decrease in the area of the mangrove ecosystem starting in 2003, 2015 and 2020. Environmental damage was also analyzed on cultural aspects, namely based on community perceptions by filling out a questionnaire.

The results showed that the distribution of the mangrove ecosystem in the study area was patterned around the ponds and some were located at the mouth of the Bengawan Solo river, which were divided into 4 canopy density classes (very rare, rare, medium, and dense). Based on the interpretation of remote sensing data, it shows that there has been a change in the area, distribution, and density class of mangrove ecosystems in the study area. In 2003, canopy density was dominated by very low canopy density (75.01 %), while 2015 and 2020 were dominated by medium canopy density with a percentage of 32.75% and 46.24%, respectively. The factors that cause damage to the mangrove ecosystem in the study area are due to the dynamics of the shoreline due to accretion and abrasion processes. Based on the analysis of cultural aspects through community perceptions, it shows that most people do not agree with the statement that the mangrove conditions in the study area are in a damaged condition. Based on the analysis using the AHP method, it shows that the environmental management strategies that are considered the most appropriate are rehabilitation and maintenance of mangrove ecosystems, education and training, community empowerment, research development, application of science and technology.

Keywords: mangrove ecosystem, environmental damage, environmental management, coastal areas