Land cover changes in tropical seasonal forests at Mae Klong head watershed, Kanchanaburi province, Thailand

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Abstract: We investigated land-cover changes recorded at Mae Klong Watershed Research Station to clarify how forested areas have changed since they were abandoned between 1982-2012. Normalised vegetation indices were calculated based on satellite images (Landsat-5 TM) at 4-year intervals from 1992 to 2012. We found that areas of degraded forest and forest fluctuated during those years. During the first 4-year period, from 1992 to 1996, 61% of degraded forest areas rapidly recovered, although some areas changed from forest to degraded forest (4.2 ± 1.27 km²), indicating that these areas were still being disturbed. However, since then, the forest area has completely recovered, indicating that natural succession has been proceeding well for about 20 years.

Keywords: land-cover change, tropical seasonal forests, Mae Klong Watershed Research Station, forest dynamics, long-term ecological research

INTRODUCTION

Ecologists have long sought to understand the extent and mode of ecological responses to environmental changes [1-3]. To obtain a holistic picture of system dynamics, the study of