Chatkamon Bunnam 2013:Effect of Forest Fire on Vegetation Structure and Species Composition at the Edges of Dry Evergreen Forest at Sakaerat Environmental Research Station, Nakhon Ratchasima Province Master of Science (Forestry Biological Science), Major Field: ForestBiological Science, Department of Forest Biology. Thesis Advisor: Associate Professor Dokrak Marod, D.Sci 92 pages.

Study on influences of fire on forest structure and species composition was carried out in the edged of dry evergreen forest st Sakaerat Environmental Research Station , Nakhon Ratchasima province. The objective aimed to clarify the effect of fire frequency on tree regeneration. Two forest edges sites with different of fire frequency, less frequency (4 - 5 year interval) and high frequency (1 - 2 year interval), were selected. Three permanent belt plots, 10 x 150 m, were established across forest edge each size which distanced on each plot about 30 – 50 m. Forest edged was identified as the beginning place, 0 m. Each belt plot was devided into three zone, remnant dry evergreen forest zone, RF, (-50 - 0m), edged interior zone , E-Int, (0–50 m), edged exterior zone, E-Ext, (50 – 100 m). All trees, sapling and seedling were tagged, measured, identified, and coordinate
(x, y) also recorded.

The result showed that the total tree species was 137 species in 92 genera and 44 families. The variation of forest structure and species composition between two sites, was detected. Sapling and seedling in RF were significantly different ($P < 0.05$) but did not detect in tree density. While, seedling density was significantly different ($P < 0.05$) in E-Int but did not detect in tree and sapling density. In addition, in E-Ext only tree density showed thesignificantly different ($P < 0.05$) Indicating fire frequency has strongly influenced on forest structure and species composition along the dry evergreen forest edge. The regeneration of dry evergreen forest, DEF species was prevented by frequent fire, however , some species in the deciduous dipterocarp forest, DDF can be invade and established into RF due to they had high adapted to fire disturbances. Thus, forest fire is very importance to maimtain the species of DDF.

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